

CHAPTER 3. EXISTING ENVIRONMENTS

The existing human, physical, cultural, and natural environments within the project area are described in this chapter of the DEIS. The inventory and evaluation of the existing environment presented in this chapter provides the necessary baseline from which to assess and document potential impacts of the proposed build alternatives. The potential environmental consequences of the proposed action are presented in Chapter 4 of this DEIS.

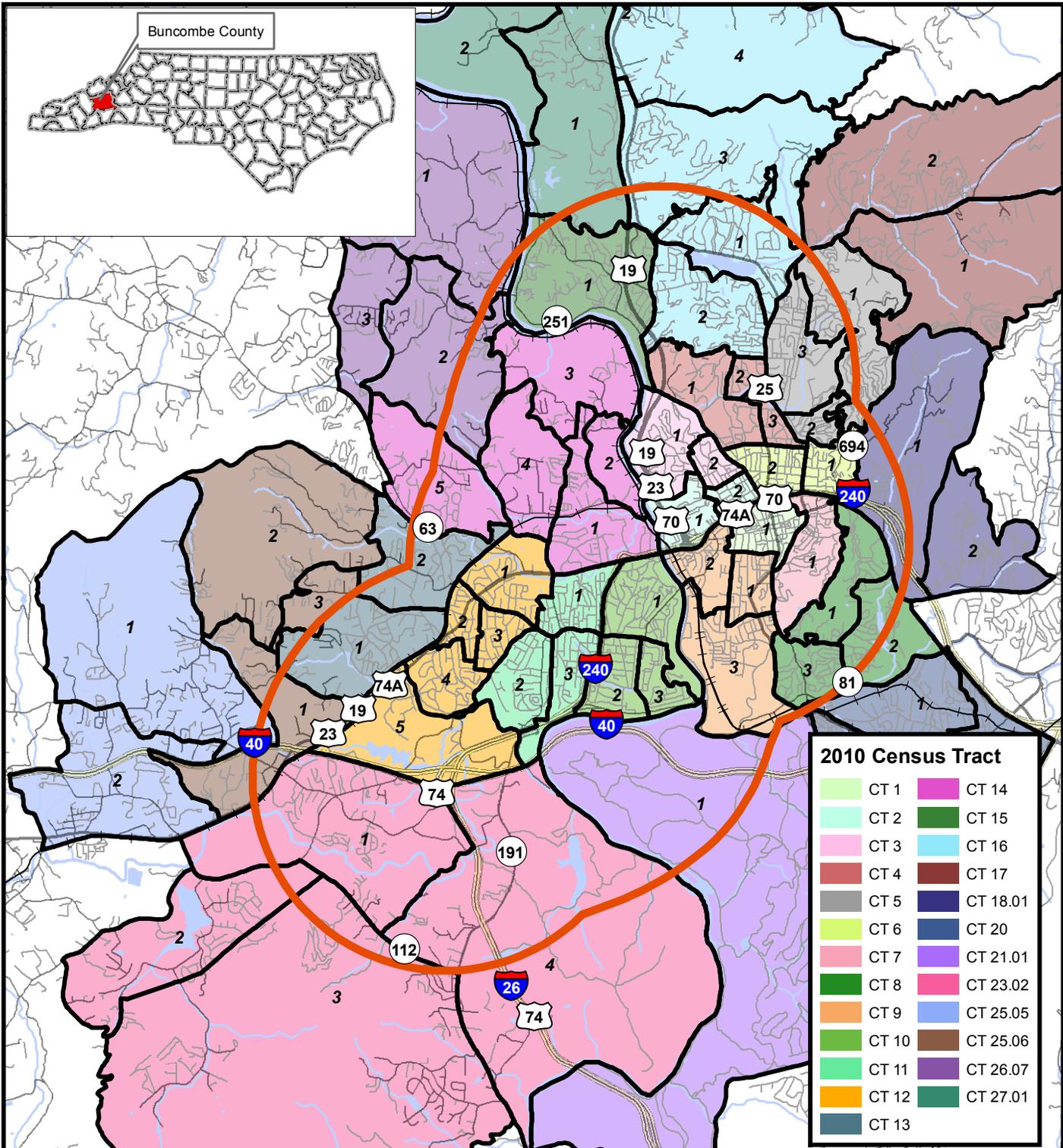
3.1 HUMAN CHARACTERISTICS

Characteristics of the human environment in the project area were examined and reported in several documents: the *Indirect Screening and Land Use Scenario Assessment (ILUS/LUSA)* (URS 2015g), the *Cumulative Effects Study Update* (URS 2015c), and the *I-2513 Community Impact Assessment Update* (URS 2015f), which contained a number of technical sub-reports. Applicable findings from those assessments are reproduced in this section.

As part of the ILUS/LUSA, a Future Land Use Study Area (FLUSA), or the area in which it is expected the project could influence land use, was delineated. The FLUSA is the area surrounding a construction project that could possibly be indirectly affected by the actions of others as a result of the completion of the project and combined projects. This study area encompasses all of the areas examined for potential increases in development pressure as a result of project construction and is shown on Figure 3-1.

In the CIA, a DCIA was identified for purposes of evaluating the effects of the project on the surrounding community. The DCIA identifies the area that is likely to be directly affected in any way during and after project completion. The DCIA generally includes all parcels within 1,000 feet of all proposed alignments; however, in some locations boundaries are slightly less due to only minimal construction or a natural feature that acts as a barrier. A detailed description of the method used to delineate the DCIA is provided in the CIA. In order to collect US Census data representative of the DCIA, a DSA was identified, which represents all block groups that contain any portion of the DCIA. Both the DCIA and DSA are shown on Figure 3-2. The following 2010 US Census tracts and block groups are included in the DSA:

- Census Tract 2, Block Groups 1 and 2
- Census Tract 3, Block Groups 1 and 2
- Census Tract 4, Block Group 1
- Census Tract 6, Block Group 2
- Census Tract 9, Block Groups 2 and 3
- Census Tract 10, Block Groups 1 and 2
- Census Tract 11, Block Groups 1, 2, and 3
- Census Tract 12, Block Group 5
- Census Tract 14, Block Groups 1 and 2



2010 Census Tract

CT 1	CT 14
CT 2	CT 15
CT 3	CT 16
CT 4	CT 17
CT 5	CT 18.01
CT 6	CT 20
CT 7	CT 21.01
CT 8	CT 23.02
CT 9	CT 25.05
CT 10	CT 25.06
CT 11	CT 26.07
CT 12	CT 27.01
CT 13	

North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- 2010 Census Block Group
(1 is Block Group Number)

Date: May 2015

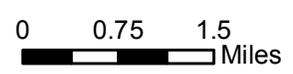
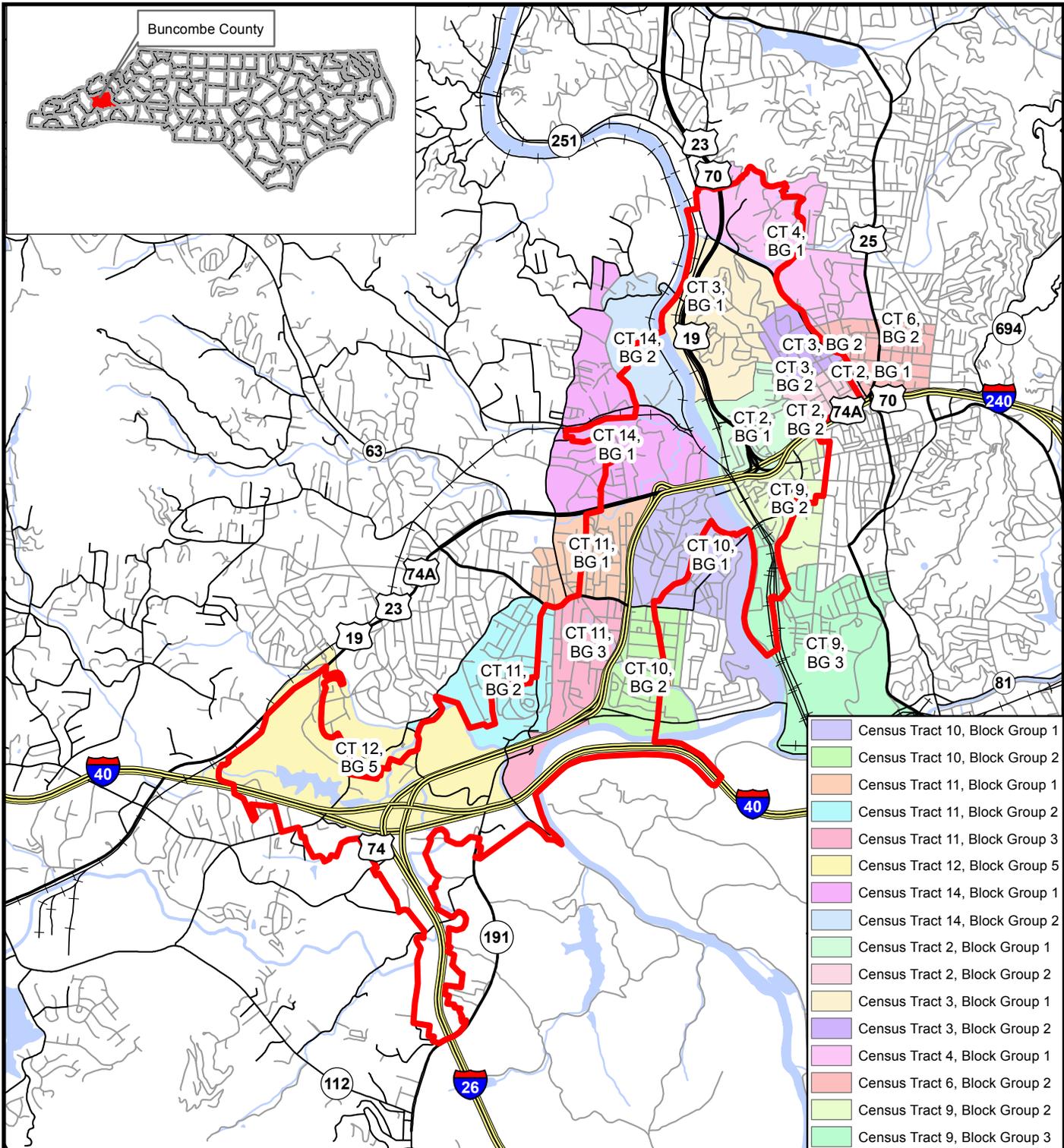


Figure 3-1

**Future Land Use
Study Area**



**North Carolina
Department of Transportation**



**I-26 Asheville Connector
Buncombe County**

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Water
- Direct Community Impact Area

Date: May 2015



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Figure 3-2

**Direct Community Impact
Area and Demographic
Study Area**

3.1.1 POPULATION CHARACTERISTICS

Community-based demographic data was gathered from the 2010 US Census as well as the 2007-2011 American Community Survey (ACS). A detailed analysis of this data is presented in the *I-2513 Community Impact Assessment Update* (URS 2015f) and *Indirect Screening and Land Use Scenario Assessment* (URS 2015g) and summarized in the following sections.

3.1.1.1 Population Growth

Between 2000 and 2010, the DSA experienced population growth of 41.1 percent (see Table 3-1). The population of Buncombe County grew at more than a third of that rate (15.5 percent), while the City of Asheville grew at a 21.1 percent rate during that same period. Only Buncombe County grew at a lower rate than the State of North Carolina (18.5 percent) during the same time period.

Table 3-1: Population Trends (2000-2010)

Area	Population		Growth	
	2000	2010	Difference	% Change
Demographic Study Area	14,925	21,063	6,138	41.1
Asheville	68,889	83,393	14,504	21.1
Buncombe County	206,330	238,318	31,988	15.5
North Carolina	8,049,313	9,535,483	1,486,170	18.5

Source: US Census Bureau, Summary File 1, Table P1 (2000 and 2010).

Population projections for Buncombe County and the State of North Carolina are shown in Table 3-2. The data indicate that Buncombe County's population should continue to increase with an annualized growth rate of 1.3%, which is generally consistent with traffic forecast growth rates in the study area (URS 2015a).

Table 3-2: Population Projections (2010-2035)

Area	Population				Annualized Growth Rate
	2010	2020	2030	2035	2010-2035
Buncombe County	238,857	269,682	300,367	315,707	1.3%
North Carolina	9,574,917	10,573,611	11,607,489	12,119,680	1.1%

Source: North Carolina Office of State Budget and Management, http://www.osbm.state.nc.us/ncosbm/facts_and_figures/socioeconomic_data/population_estimates/count_y_projections.shtm.

3.1.1.2 Race/Ethnic Composition

The race/ethnic composition of the DSA, City of Asheville, Buncombe County, and State of North Carolina are compared in Table 3-3.

In 2010, the African American populations within the City of Asheville (13.4 percent) and the DSA (21.1 percent) were more than two and three times greater, respectively, than Buncombe County (6.4 percent) (see Table 3-3). The DSA also contained a greater percentage of Hispanics (6.0 percent) than Buncombe County (5.7 percent).

Table 3-3: Population by Race/Ethnicity (2010)

Race	DSA		Asheville		Buncombe County		North Carolina	
	#	%	#	%	#	%	#	%
White	14,979	71.1%	66,143	79.3%	208,192	87.4%	6,528,950	68.5%
Black or African American	4,450	21.1%	11,134	13.4%	15,211	6.4%	2,048,628	21.5%
American Indian/ Alaska Native	84	0.4%	280	0.3%	948	0.4%	122,110	1.3%
Asian	136	0.6%	1,142	1.4%	2,417	1.0%	208,962	2.2%
Native Hawaiian/ Pacific Islander	10	0.0%	126	0.2%	289	0.1%	6,604	0.1%
Other Race	757	3.6%	2,401	2.9%	6,266	2.6%	414,030	4.3%
Two or More Races	647	3.1%	2,167	2.6%	4,995	2.1%	206,199	2.2%
Total	21,063	100.0%	83,393	100.0%	238,318	100.0%	9,535,483	100.0%
Total Hispanic	1,737	8.2%	5,455	6.5%	14,254	6.0%	800,120	8.4%

Source: US Census Bureau (2010).

3.1.1.3 Limited English Proficiency

Most individuals living in the United States read, write, speak, and understand English. There are many individuals, however, for whom English is not their primary language. The 2010 Census shows that 26 million individuals speak Spanish and almost 7 million individuals speak an Asian or Pacific Island language at home. If these individuals have a limited ability to read, write, speak, or understand English, they are limited English proficient (LEP).

Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition against national origin discrimination under Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d) and the USDOT Title VI regulations at 49 CFR 21.

To clarify existing requirements for LEP persons under Title VI, on August 11, 2000, President Clinton issued Executive Order (EO) 13166, "Improving Access to Services for Persons with Limited English Proficiency." The EO requires each federal agency to examine the services it provides and develop and implement a system by which LEP persons can meaningfully access those services consistent with, and without unduly burdening, the fundamental mission of the agency.

The US Department of Justice (DOJ) is responsible for coordinating government-wide implementation of the EO. To assist agencies in fulfilling the mandates of the order, DOJ published a general LEP policy guidance document on August 16, 2000, and issued revised guidance on June 18, 2002. The EO states that agencies' LEP plans and guidance must be consistent with the DOJ LEP guidance.

In accordance with the EO, the USDOT issued *Policy Guidance Concerning Recipient's Responsibilities to Limited English Proficient (LEP) Persons* (USDOT 2005), which is modeled after DOJ's guidance. As described in the guidance, USDOT recipients are required to take reasonable steps to ensure meaningful access to their programs and activities by LEP persons. LEP data from the 2011 ACS data were compiled for the project study area and are summarized in Table 3-4.

Table 3-4: Limited English Proficiency Data by Block Group (2007-2011)

Geography	Total Adult Population, 18 years and older	Primary Language Group of Persons Who Speak English Less than Very Well							
		Spanish		Other Indo-Euro		Asian/Pacific		Other	
		#	%	#	%	#	%	#	%
CT 2, BG 1	717	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 2, BG 2	612	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 3, BG 1	1,067	73	6.8%	0	0.0%	0	0.0%	0	0.0%
CT 3, BG 2	453	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 4, BG 1	2,329	0	0.0%	9	0.4%	41	0.0%	0	0.0%
CT 6, BG 2	1,078	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 9, BG 2	920	12	1.3%	11	1.2%	0	0.0%	0	0.0%
CT 9, BG 3	1,253	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 10, BG 1	1,416	0	0.0%	11	0.8%	0	0.0%	0	0.0%
CT 10, BG 2	1,208	0	0.0%	0	0.0%	7	0.0%	0	0.0%
CT 11, BG 1	1,228	14	1.1%	0	0.0%	0	0.0%	0	0.0%
CT 11, BG 2	1,207	0	0.0%	0	0.0%	9	0.0%	0	0.0%
CT 11, BG 3	1,260	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 12, BG 5	489	0	0.0%	0	0.0%	0	0.0%	0	0.0%
CT 14, BG 1	979	45	4.6%	0	0.0%	0	0.0%	0	0.0%
CT 14, BG 2	665	117	17.6%	0	0.0%	0	0.0%	0	0.0%
DSA Aggregate	16,881	261	1.5%	31	0.2%	57	0.0%	0	0.0%

Source: US Census Bureau, American Community Survey 5-year Estimates (2007-2011), Table B16004, "Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over."

Census data do not indicate LEP populations meeting the DOJ LEP Safe Harbor threshold but do indicate a Spanish-speaking population exceeding 50 persons within the DSA that may require language assistance. As shown in Table 3-4, there are two block groups (Census Tract [CT] 3, Block Group [BG] 1 and CT 14, BG 1) where census data indicate the presence of a Spanish-speaking population, which may require language assistance, as more than 50 persons in each of these block groups speak English "less than very well." In general, the locations of these areas are immediately north of the I-26/I-40/I-240 interchange and north of Patton Avenue on the west side of the French Broad River. These block groups and areas generally correspond with the following neighborhoods/areas: Westgate area and Emma Road/Bingham Road neighborhood.

According to the LEP data, the majority of LEP populations within the DSA are Spanish language speakers. There are also persons in the "Other Indo-European" and "Asian/Pacific" language groups. Interviews with local planners indicate there is a Ukrainian population within the study area. Based on the documentation provided for this report, it is unclear whether any bilingual outreach through any Hispanic or Ukrainian media outlets has been conducted to date on the project.

3.1.1.4 Age Composition

In 2010, the median age within the DSA (33.9) was lower than that of the other geographic areas studied (see Table 3-5).

Table 3-5: Median Age (2010)

	DSA	Asheville	Buncombe County	North Carolina
Median Age	33.9	38.2	40.6	37.4

Source: US Census Bureau, Summary File 1, Tables DP1 (2010).

3.1.1.5 Housing Characteristics

Between 2000 and 2010, the number of households in the DSA increased by 27.1 percent as compared to 17.1 percent in Buncombe County. The higher growth rate could possibly be attributed to the abundance of infill development currently occurring within the DSA.

In 2011, the median home value in the DSA (\$187,342) was lower than that in Buncombe County (\$192,200). The median year structure built in the DSA is approximately two decades older (1957) than in the county (1980).

The DSA generally has a lower homeownership rate than Buncombe County. In 2010, 44.9 percent of homes in the DSA were occupied by the owner, while 65.7 percent of the homes in Buncombe County were occupied by the owner. Homeownership in the DSA and Buncombe County decreased by 6.5 percent and 4.6 percent, respectively, between 2000 and 2010.

In 2011, the DSA had a lower median contract rent (\$543) than Buncombe County (\$637). Lower median contract rents likely support other census data indicating the presence of lower income areas within the DSA.

3.1.2 ECONOMIC CHARACTERISTICS

3.1.2.1 Business and Employment

Buncombe County has traditionally had one of the more diverse economies in western North Carolina. Despite the decline of manufacturing, numerous other industries have flourished, creating a net gain of jobs throughout the region.

Data from the ACS (accessed in November 2013) indicate that approximately 89.6 percent of the people who resided in Buncombe County also worked in Buncombe County. In addition, the median commuting time for the Buncombe County workforce was 20.8 minutes, while the median commuting time for all North Carolina workers was 23.4 minutes. These numbers support the assumption that Buncombe County is a regional employment center.

According to data from the Asheville Chamber of Commerce (accessed May 2014), the following companies and entities employ over 3,000 people each within Buncombe County: Mission Health and Hospitals and Buncombe County Public Schools. The following companies and entities employ over 1,000 people each within Buncombe County: Buncombe County Government, The Biltmore Company, Ingles Markets, Inc., the VA Medical Center-Asheville Department of Veterans Affairs, the City of Asheville, the Asheville-Buncombe Technical Community College (AB Tech), and The Grove Park Inn resort and spa. In addition, both Care Partners and Eaton Corporation – Electrical Division employ between 750 and 999 employees.

According to additional data from the North Carolina Department of Commerce-Division of Employment Security, employment in Buncombe County increased by 3.9 percent between 2000 and 2010, and increased by 5.7 percent between 2010 and 2013. Buncombe County has experienced employment growth and losses throughout various industry sectors. The largest job

loss between 2000 and 2010 in terms of numbers of jobs lost number-wise was in the manufacturing sector (5,892 jobs lost). The largest job increase during that time period (in terms of numbers of jobs gained number-wise) was experienced in the health care and social assistance sector (4,998 jobs gained). Accommodation and food services experienced the largest percentage growth during this time (32.6 percent), while agriculture, forestry, fishing, and hunting experienced the largest percentage loss (-40.2 percent).

North Carolina experienced a decline in employment (-2.1 percent) between 2000 and 2010. However, between 2010 and 2013, North Carolina experienced employment growth (4.2 percent) that was similar to that of Buncombe County (5.7 percent).

During that same time period, North Carolina experienced the largest raw increase in jobs in the health care and social assistance sector (147,768 jobs added) and in the educational services sector (80,949 jobs added). Buncombe County and North Carolina both displayed a decrease in the number of manufacturing jobs between 2000 and 2010, and both have experienced growth between 2010 and 2013.

According to data from the North Carolina Employment Security Commission (NCESC), Buncombe County had a lower unemployment rate than the state in 2000, 2010, and 2013 (Table 3-6). Buncombe County and North Carolina both experienced increases in unemployment between 2000 and 2010; however, levels have decreased slightly since. Unemployment increases for both studied geographies may possibly be attributed to the closure of numerous manufacturing facilities, particularly those related to the textile industry and the more recent recession.

Table 3-6: Unemployment Rate (2000 to 2013 Rates)

Area	Unemployment Rate		Change; 2000-2010		Unemployment Rate		Change; 2010-2013	
	2000	2010	Difference	% Change	2010	2013	Difference	% Change
City of Asheville	3.5%	8.4%	4.9%	140	8.4%	6.3%	-2.1%	-25
Buncombe County	3.4%	8.4%	5.0%	147	8.4%	6.2%	-2.2%	-26
North Carolina	3.7%	10.5%	6.8%	184	10.5%	8.3%	-2.2%	-21

Source: North Carolina Employment Security Commission (August Reporting Month)
<http://esesc23.esc.state.nc.us/d4/>.

3.1.2.2 Income and Poverty Level

The 2011 median household income for the DSA (\$31,661) was lower than in Buncombe County (\$44,321). The DSA had a higher percentage of people living below poverty (34.3 percent) than Buncombe County (15.6 percent) in 2011 (see Table 3-7).

Asheville Housing Authority or Housing and Urban Development (HUD)-insured communities are located within the following block groups:

- Census Tract 2, Block Group 1 (Hillcrest Apartments)
- Census Tract 3, Block Group 1 (Klondyke Apartments)
- Census Tract 10, Block Group 2 (Pisgah View Apartments)
- Census Tract 14, Block Group 2 (Woodridge Apartments)

Table 3-7: Percentage of Population Below Poverty Level (2011)

Area	Percentage Below Poverty
Demographic Study Area	34.3%
Asheville	20.3%
Buncombe County	15.6%
North Carolina	16.1%

Source: ACS 2007-2011.

The Hillcrest Apartments, Klondyke Apartments, and Pisgah View Apartments are operated by the City of Asheville Housing Authority, and housing choice vouchers are not accepted. Housing choice vouchers are accepted at the income-restricted Woodridge Apartments.

3.1.2.3 Educational Attainment

Generally speaking, the education attained by people in the DSA is higher than in Buncombe County, but lower than the City of Asheville. Approximately 42.6 percent of the population in the DSA achieved some sort of college degree (Associates, Bachelors, or Graduate) as compared to 40.8 percent in Buncombe County and 47.4 percent for the City.

3.1.3 COMMUNITY FACILITIES AND SERVICES

Community facilities are mapped on Figures 3-3a and 3-3b and are described below.

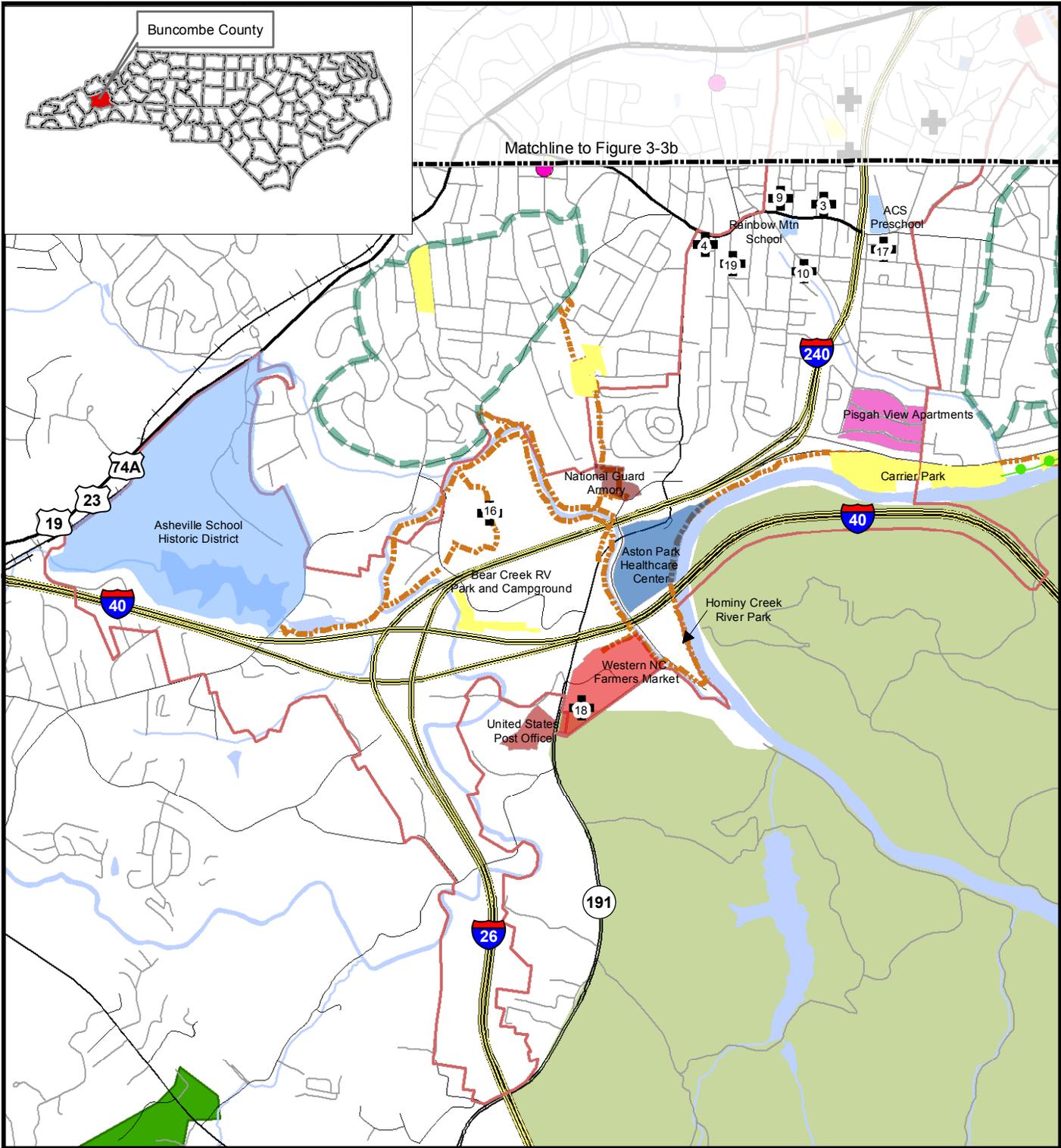
3.1.3.1 Parks and Recreational Facilities

The City of Asheville owns and operates 13 parks in the DCIA. This includes Carrier Park, Hummingbird Park, Burton Street Park, Jean Webb Park, Murray Hill Park, Owens-Bell Park, Riverside Cemetery, Southside Center, Aston Park, Magnolia Park, Montford Park, West Asheville Park, and the Montford Recreation Center. Carrier Park is located adjacent to Amboy Road and the French Broad River, and is a Section 4(f) facility. The Buncombe County Parks & Recreation Department owns and operates Hominy Creek River Park at the confluence of Hominy Creek and the French Broad River. The Bear Creek RV Park & Campground is a privately-owned campground and recreational vehicle facility located along South Bear Creek Road.

An existing section of the French Broad River Greenway along Amboy Road (SR 3556) currently connects Carrier Park near the project to the French Broad River Park to the east. There are plans to extend this greenway west along the French Broad River to Hominy Creek Park at the mouth of Hominy Creek. As planned, the entire greenway will extend on both sides of the French Broad and Swannanoa rivers and will be comprised of greenway corridors and future park destinations. The greenway is owned by the City of Asheville and is accessible to the public for recreation. Facilities include greenspace, the trail, a wildflower garden, gazebo, picnic tables and grills, observation deck, playground, parking, and a dog park.

3.1.3.2 Schools

A review of NCDOT geographic information system (GIS) data (August 2013) and field observations reveals six schools within the DCIA, including Isaac Dickson Elementary, the William Randolph Learning Center, the Asheville City Schools Pre-School (formerly



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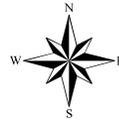
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Emergency Services
- French Broad River Greenway
- - - Trail Network
- - - Bike Route
- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- DCIA
- Water
- Parks
- Pisgah National Forest
- Biltmore Estate
- Land Use Shading
- 3 Calvary Baptist
- 4 Grace Baptist
- 9 Trinity Unity Methodist
- 10 Community Chapel Church of God
- 16 Crossroads Assembly Church
- 17 First Church of God
- 18 Inanda Baptist Church
- 19 West Asheville Presbyterian

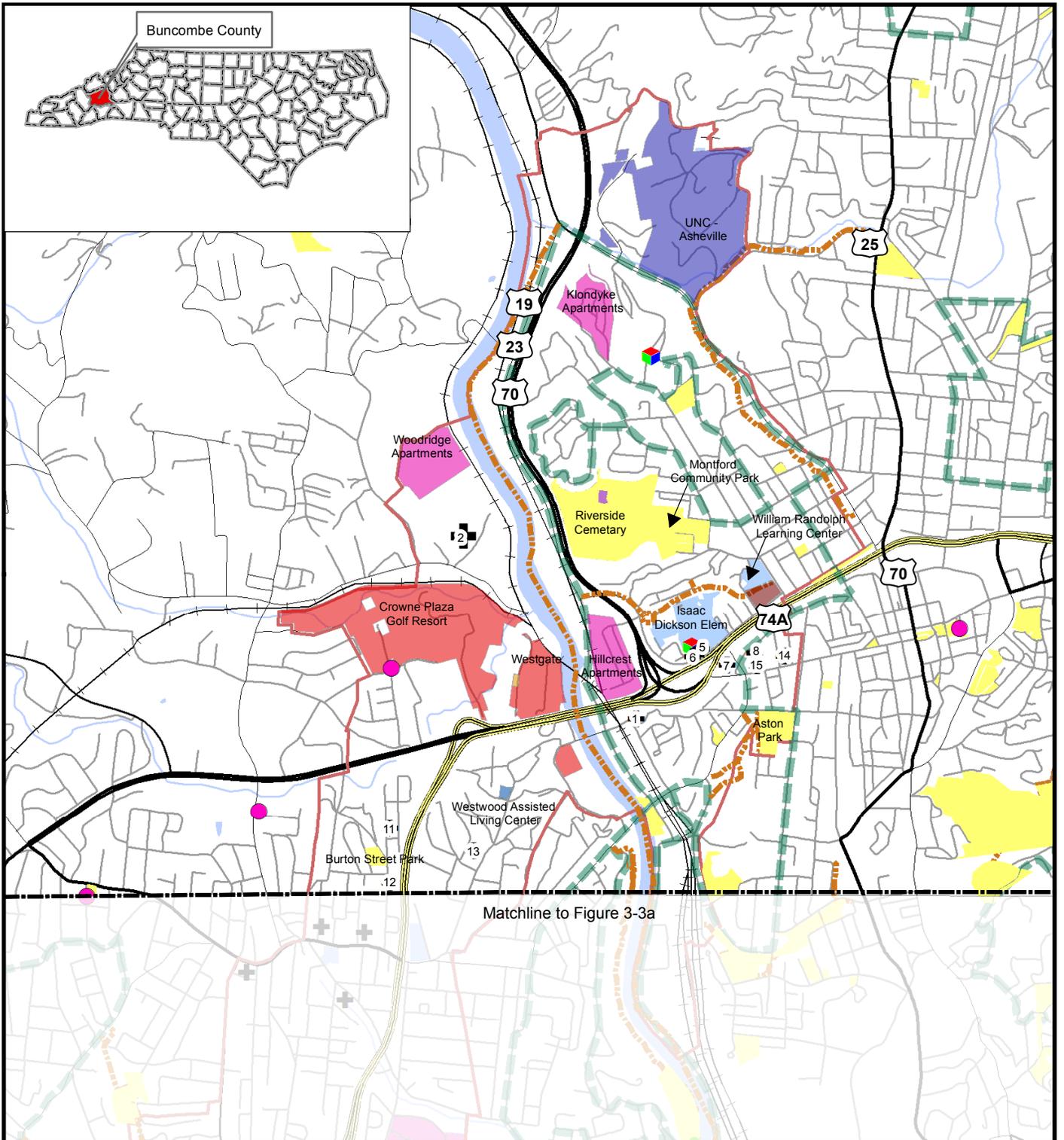
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Figure 3-3a

Community Facilities



North Carolina
Department of Transportation



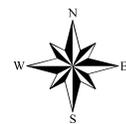
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Church
- Daycares
- Emergency Services
- French Broad River Greenway
- Trail Network
- Bike Route
- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- DCIA
- Water
- Pisgah National Forest
- Biltmore Estate
- Parks
- 1 Asheville United Christian
- 2 Christian Church of Hope
- 3 Hill Street Baptist Church
- 4 Holy Tabernacle Church of God
- 5 Haywood Street Methodist
- 6 Friendship Baptist
- 7 St. Pauls Missionary Baptist Church
- 8 Community Baptist Church
- 9 Westwood Baptist Church
- 10 Sycamore Temple of God
- 11 Western Carolina Rescue Ministries

Date: May 2015



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Figure 3-3b

Community Facilities

known as the Accelerated Learning Center and Aycok School), the Rainbow Mountain School, Odyssey Community School, and the Asheville School. The Isaac Dickson Elementary school is a magnet school located on Hill Street and the (William) Randolph Learning Center is located on Montford Avenue, while the Odyssey Community School is located along Zillicoa Street. The Asheville City Schools Pre-School and the Rainbow Mountain School are located on Haywood Road east and west of the project area, respectively. The Asheville School is located between Sand Hill Road and US 19-23, in the southwestern part of the DCIA. The UNC-A campus is also located partially within the DCIA. The campus is located northeast of the proposed northern terminus of the project.

3.1.3.3 Daycare Facilities

Three daycare facilities were identified within the DCIA, including the Little Beaver Daycare on Zillicoa Street, the Hill Street Baptist Church Daycare on Hill Street, and the Cavalry Baptist Child Enrichment Center on Haywood Road west of the project area. The Wee Wiggles Child Care Center used to be located at the Westgate Shopping Center, but has recently relocated to Haywood Road west of the DCIA.

3.1.3.4 Churches

At least 25 churches were identified within the DCIA. Several of these churches are located in close proximity to the project alignment, including:

- Asheville United Christian Church
- Asheville Wesleyan Church
- Cavalry Baptist Church
- Christian Church of Hope
- Church of God
- Church of Jesus Christ of Latter Day Saints
- Community Baptist Church
- Community Chapel Church of God
- Crosspoint Community Church
- Crossroads Assembly Church
- First Church of God
- Friendship Baptist Church
- Grace Baptist Church
- Haywood Street United Methodist Church
- Hill Street Baptist Church
- Holy Tabernacle Church of God
- Inanda Baptist Church
- Riverside Church
- St. Pauls Missionary Baptist Church
- Sycamore Temple Church of God
- Trinity United Methodist Church
- Unity Church of Asheville
- West Asheville Baptist Church
- Western Carolina Rescue Ministries
- Westwood Baptist Church

3.1.3.5 Cemeteries

The only known cemetery adjacent to the project is the City of Asheville's Riverside Cemetery located east of existing US 19-23-70, approximately 1,800 feet north of the Hill Street exit. Established in the 1880s, Riverside Cemetery is still active with more than 13,000 graves, 9,000 monuments, and 12 family mausoleums. This cemetery is part of the Montford Historic District listed in the National Register of Historic Places (NRHP) (see Section 3.4.1).

3.1.3.6 Public Housing Units

Approximately 650 public housing units are contained in three Asheville Housing Authority communities located within the DCIA, and are operated by the Housing Authority of the City of Asheville. The Pisgah View Apartments are located just north of Amboy Road in the southeastern portion of the DCIA (see Figure 3-4). The Pisgah View Community Center and Head Start Center are also located within the Pisgah View Apartments complex. The Hillcrest Apartments are located between Riverside Drive, US 19-23-70, and I-240. The Carl Johnson Community Center and Head Start Center is also located within the Hillcrest Apartments complex. The Klondyke Apartments public housing complex is located along Montford Avenue in the northern portion of the DCIA. An additional 160 income-restricted units in the Woodridge Apartments located along Bingham Road are operated by the Asheville-Woodridge Limited Partnership.

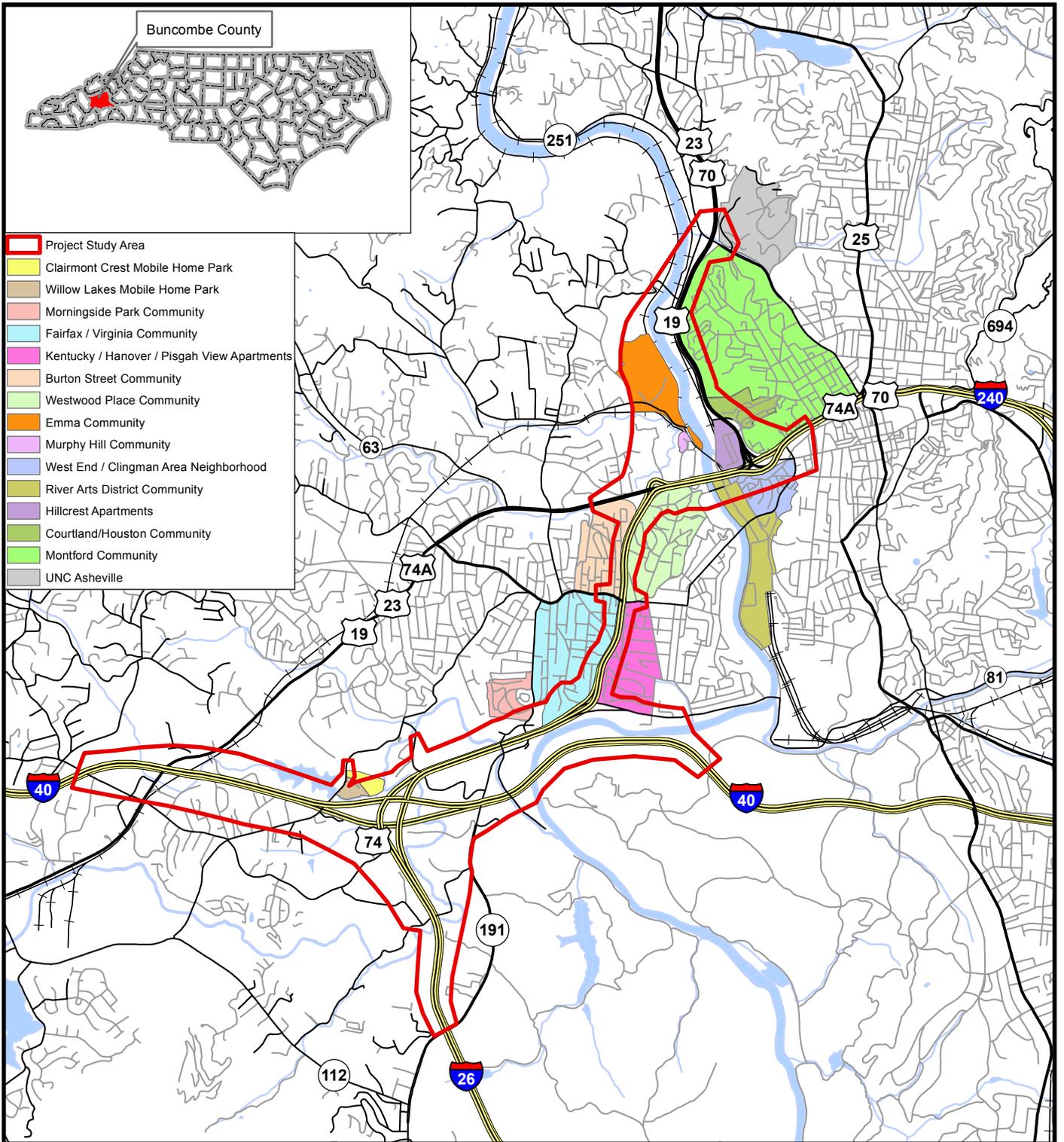
3.1.3.7 Commercial Corridors and Nodes

Several key commercial corridors and nodes are located within the DCIA. The primary commercial corridors within the DCIA are located along Haywood Road, Patton Avenue, and Riverside Drive. The Crowne Plaza Resort, Westgate Shopping Center, and several other businesses are concentrated around the I-240/Patton Avenue interchange. Both Westgate Shopping Center and the Crowne Plaza Resort have undergone recent renovation and other development enhancements. The Crowne Plaza Resort is a multi-activity resort center with a golf course, tennis facilities, rock wall, zip-lining, and swimming facilities for use by resort guests. The Western North Carolina Farmers Market is a regional farmers market located at the I-40/NC 191 interchange. Numerous light industrial businesses and commercial businesses are located along the French Broad River and near the railroad system. Professional offices and commercial properties are concentrated along Zillicoa Street.

Haywood Road Commercial Corridor

The Haywood Road Commercial Corridor is generally located between Patton Avenue and the French Broad River, and the portion west of I-240 serves as a "main street" for the tight-knit West Asheville Community. Locals say that the corridor developed as a trail for Native Americans, later became a horse path, and eventually a road in the late 1800s. The construction of I-240 in the late 1960s divided businesses on the west side and the east side of the new facility, and this separation is still felt today.

According to OnHaywood.com, Haywood Road is the century-old heart of West Asheville with small-scale, often family-owned businesses close to residential neighborhoods. It is a narrow commercial corridor, with vehicular, bicycle, and pedestrian traffic. Along with a variety of specialty shops, coffee shops, restaurants, and other retail businesses, there are several community facilities along this business corridor, including schools, a daycare, and churches.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water

Date: May 2015



0 0.5 1
Miles

Figure 3-4

Communities

Haywood Road also borders the Burton Street neighborhood (west of I-240), the Westwood Place neighborhood, and the West End/Clingman neighborhood (both east of I-240).

The City of Asheville conducted a corridor study of the Haywood Road corridor to ascertain the needs of local residents and businesses. The study includes recommendations for the inclusion of pedestrian-oriented streetscapes, landscaping, architectural specifications, and the inclusion of various rezonings to promote compatible growth and neighborhood cohesion. It also mentions improving the pedestrian walkway over I-240 by separating pedestrian and bicycle traffic from motor vehicles.

Patton Avenue Commercial Corridor

The greatest concentration of commercial development in the DCIA is centered on the I-240/Patton Avenue interchange, west of the French Broad River. Patton Avenue (US 19-23-74) extends from I-40 to downtown Asheville. The Westgate Shopping Center (the first shopping center constructed outside of downtown Asheville), the Crowne Plaza Resort (with golf, tennis, and swimming facilities for guests), and other businesses are located within the DCIA. Based on site observations from March 2010, Westgate Shopping Center is currently being redeveloped with the intent of transforming it into a mixed-use lifestyle center. There are also plans for the Crowne Plaza to expand its sports center with other mixed uses and structured parking.

Along Patton Avenue, west of the French Broad River, are national brand chains such as Denny's, Verizon Wireless, and Sam's Club, as well a few more locally based businesses, such as Jackson's Western Store and Alpine Photography. There are also larger, more industrial type businesses, such as Federal Express, near the I-240/Patton Avenue interchange. Patton Avenue has relatively heavy vehicular traffic, with limited bicycle and pedestrian traffic.

Patton Avenue is the primary vehicular link between West Asheville, the River Arts District (RAD), and downtown Asheville. The RAD is a historically industrial but emerging artistic section of town identified by the City of Asheville as a focal point for redevelopment activities. A group associated with the ADC has worked to advocate that, as part of the proposed project, local and Interstate traffic on Patton Avenue be separated, the scale of the project match the character of the community, connectivity be increased, and impacts be minimized. The ADC envisions the Patton Avenue Business Corridor as a tree-lined urban boulevard serving as a gateway to downtown Asheville.

Riverside Drive Commercial Corridor

Riverside Drive runs parallel to and along the east side of the French Broad River. I 26/US 19 23-70 is located immediately adjacent and parallel to Riverside Drive on the east. The NS Craggy Mountain spur line of the Norfolk Southern Railroad is also located in this area. The Riverside Drive Commercial Corridor extends from Patton Avenue and the northern boundary of the RAD to Broadway. Broadway is also the northern extent of the Asheville city limits. This corridor is approximately 1.8 miles, with approximately 30 businesses.

The portion of Riverside Drive north of Patton Avenue has an industrial feel, with farm supply warehouses, auto parts stores, salvage lots, and similar types of light industrial uses. The businesses are located on relatively large parcels on the west side of the road, since I-26/US 19-23-70 is located along the east side of the road. The Wilma Dykeman RiverWay is planned to link existing and future parks and tourist destinations along the French Broad and

Swannanoa Rivers via a 17-mile greenway with separate walking and biking trails. The Riverside Drive Commercial Corridor is located in District 1 (Riverside Drive North) of the plan.

Riverside Drive south of Patton Avenue (and just south of the Riverside Drive Commercial Corridor) also has an industrial feel, but with an artistic flavor. It traverses the RAD, which is generally bounded by Patton Avenue on the north, Clingman Avenue and Depot Street on the east, Lyman Street on the south, and the French Broad River on the west. This district is the site of large industrial warehouses and old cotton mills, many of which have been converted into residences, artist's studios, and galleries. "Studio Strolls" occur several times a year, and many galleries are open to the public on a regular basis.

3.1.3.8 Post Offices

No post offices were identified in the DCIA. A post office is located just outside of the DCIA southwest of the I-40/NC 191 interchange.

3.1.3.9 Hospitals

No hospitals were identified in the DCIA. The Aston Park Health Care Center is located on NC 191 in the southern portion of the DCIA. The Westwood Assisted Living Center is located on Westwood Place. According to local officials, there is also a medical clinic (Western North Carolina Community Health Services – Minnie Jones Family Health Center) just outside of the DCIA near the intersection of Haywood Road and Ridgelawn Road. It is likely that this clinic provides medical services to persons residing within the DCIA.

3.1.3.10 Land and Water Conservation Fund Properties

Properties, usually parks that have received any amount of financing from Land and Water Conservation Funds, need to be documented and cleared through the US Department of the Interior. The properties are known as Section 6(f) properties. The National Park Service's (NPS) Land and Water Conservation Fund web site indicates that there is one known 6(f) resource in the DCIA (Montford Complex) (NPS 2010).

3.1.3.11 Crime, Safety and Emergency Services

Information on crime, safety, and emergency services was gathered through phone interviews with local officials and field observations. According to local officials, Pisgah View Apartments, Hillcrest Apartments, and Klondyke Apartments experience more crime than the remainder of Asheville. The City of Asheville Police Department provides protection throughout the DCIA.

The Buncombe County Rescue Squad Station #2 is the only emergency services facility identified within the DCIA. It is located along Hansel Avenue north of Patton Avenue (see Figure 3-4). The Buncombe County Rescue Squad, City of Asheville Fire Department, and Buncombe County Emergency Services provide emergency medical services throughout the DCIA through the use of several facilities located outside of the DCIA.

The City of Asheville Fire Department Station #3 is located south of Patton Avenue just west of the DCIA, while Station #11 is located in the southern portion of the DCIA near the I-26/NC 191 interchange. The City of Asheville Fire Department provides fire service throughout the DCIA.

Local officials indicated that the pedestrian bridge for the Hillcrest Apartments was closed due to criminal activity, but has since been re-opened due to a number of pedestrian deaths attributed to crossing I-240/Patton Avenue on foot. Residents of the Fairfax/Virginia and Kentucky/Hanover/Pisgah View communities indicated that lighting is a concern at the State Street underpass, which is frequently used by pedestrians and bicyclists to cross under I-240.

3.1.4 NEIGHBORHOODS AND COMMUNITIES

3.1.4.1 Identified Communities

The study area for the proposed project includes 15 communities, based on field reviews and discussions with local planners. Each of the communities was delineated and a community boundary was established to allow for further analysis of each community, as shown on Figure 3-4. A community profile was developed for each of the communities. The following section provides a brief summary of the identified communities.

In order to identify and assess potential effects to special populations within the DCIA, census demographic data were evaluated to summarize community characteristics pertaining to race, poverty level, median income, and median age within the potentially affected neighborhoods, the City of Asheville, and Buncombe County. Identified neighborhoods were generally correlated to particular block groups when defining community characteristics. A summary of the neighborhood characteristics is included in Table 3-8.

Clairmont Crest Mobile Home Park Community

The Clairmont Crest Mobile Home Park community is located off Sand Hill Road north of I-40, adjacent to the I-26/I-40/I-240 interchange. The community is somewhat isolated due to its proximity to the interchange, with no nearby community amenities within walking distance. There is also only one ingress/egress point to the community. Willow Lake Mobile Home Park is located adjacent to Clairmont Crest; however, there is no evidence of interaction between the two communities. Both mobile home parks were developed by the same individual who currently resides within Clairmont Crest, but who sold Willow Lake, which is now under separate ownership. The Clairmont Crest community is racially mixed, with a few Hispanic residents. The mobile homes appear well maintained, and residents both rent and own their lots and homes. Several residents have young families; however, there are no recreational amenities on the premise for children, resulting in families taking their children to nearby parks to play.

Willow Lake Mobile Home Park Community

The Willow Lake Mobile Home Park community is located off Sand Hill Road north of I-40, adjacent to the I-26/I-40/I-240 interchange. The community is somewhat isolated due to its proximity to the interchange, with no nearby community amenities within walking distance. There is also only one ingress/egress point to the community. Clairmont Crest Mobile Home Park is located adjacent to Willow Lake. Based on interviews with residents from each community, there is no known neighborhood interaction between Clairmont Crest and Willow Lake. A resident of Willow Lake indicated that most residents rent their lots and mobile homes. Homes in Willow Lake appear older and show evidence of deferred maintenance.

Table 3-8: Community Characteristics (2010)

Community	% African American	% Hispanic	% Below Poverty	Median Household Income	Median Age
Clairmont Crest Mobile Home Park (Census Tract 12, Block Group 5)	6.3%	17.5%	33.3%	\$37,348	31.6
Willow Lake Mobile Home Park (Census Tract 12, Block Group 5)	9.7%	24.3%	30.0%	\$37,348	31.3
Morningside Park (Census Tract 11, Block Group 3)	2.3%	3.7%	7.4%	\$45,577	39.7
Kentucky/Hanover/Pisgah View Area (Census Tract 10, Block Group 2)	39.7%	4.8%	33.7%	\$31,698	26.5
Fairfax/Virginia (Census Tract 11, Block Group 2 and 3)	8.6%	8.8%	22.1%	\$37,960	36.6
Westwood Place (Census Tract 10, Block Group 1)	9.8%	6.8%	18.2%	\$48,558	34.2
Burton Street (Census Tract 11, Block Group 1)	38.4%	7.6%	21.2%	\$31,950	35.4
West End/Clingman (Census Tract 9, Block Group 3 and 4)	22.8%	3.9%	45.9%	\$17,208	50.1
Hillcrest Apartments (Census Tract 2, Block Group 2)	74.7%	1.2%	62.4%	\$15,721	20.0
Houston/Courtland (Census Tract 2, Block Group 2)	26.3%	2.8%	62.5%	\$15,721	30.1
Emma Road/Bingham Road (Census Tract 14, Block Group 1 and 2)	26.3%	35.4%	40.8%	\$27,351	29.3
Murphy Hill (Census Tract 14, Block Group 1)	0.0%	0.0%	50.0%	\$22,021	52.1
River Arts District (Census Tract 9, Block Group 3 and 4)	48.2%	1.8%	50.5%	\$17,208	48.6
Montford (Census Tract 2 and 3, Block Group 1 and 2)	18.7%	2.6%	39.0%	\$29,398	31.5
UNC-Asheville (Census Tract 4, Block Group 3)	4.5%	4.3%	35.1%	\$31,224	28.5
City of Asheville	13.4%	6.5%	20.3%	\$40,863	38.2
Buncombe County	6.4%	6.0%	15.6%	\$44,321	40.6

Source: US Census Bureau (2010), ACS (2007-2011).

Morningside Park Community

Based on discussions with a local Asheville real estate agent, the Morningside Park area is a subarea of the West Asheville Community. The 2010 US Census data indicate that homeownership rates are relatively high (80 percent) in the area; however, the data also indicate that more than 50 percent of residents have lived in their homes for less than five years. It was noted that the area is comprised of residents of various ages. Many younger residents and families are moving into the area, but some of the older residents still remain in the area. It

was indicated that many of the residents of Morningside Park patronize Ingles as a grocery store, as well as other restaurants and shops along Haywood Road.

Kentucky/Hanover/Pisgah View Area Community

The Pisgah View Apartments are operated by the Housing Authority of the City of Asheville. The apartments are located east of the existing interchange at I-240 and Amboy Road. Based upon Buncombe County GIS parcel data, the property is generally bounded by Stewart Street to the north, Michigan Avenue to the east, Amboy Road to the south, and Hanover Street to the west. Combined with the residences along Kentucky Drive and Hanover Street, this community comprises approximately one-third of US Census Bureau Census Tract 10, Block Group 2. According to 2010 Census data, this neighborhood contains an African American population (39.7 percent) that is about six times as much as that in Buncombe County (6.4 percent). The Hispanic population (4.8%) is just slightly below the county average (6.0 percent). More than a third (33.7 percent) of the population in this neighborhood lived below poverty level as compared to 15.6 percent in the county. The median annual income in this neighborhood (\$31,698) was substantially less than the median income in the county (\$44,321). Additionally, the median age in this neighborhood (26.5) is relatively low when compared to the median age in the county (40.6).

Fairfax/Virginia Community

The Fairfax/Virginia Avenue neighborhood contains a mix of older housing stock, as well as recently constructed infill residences. The neighborhood is located north of the Brevard Road interchange at I-240, and generally includes Fairfax Avenue, Virginia Avenue, and the secondary streets between them. A small portion of the neighborhood is located within US Census Bureau Census Tract 11, Block Group 2. Census data do not reveal any special populations in this block group. The remainder of the neighborhood comprises nearly half of US Census Bureau Census Tract 11, Block Group 3. According to 2010 Census data, this section of the neighborhood contains a Hispanic population (8.8 percent) that is higher than that in the county (6.0 percent). Over 22 percent (22.1 percent) of the population in the neighborhood (as compared to 15.6 percent in the county) lives below the poverty level. The median income in this neighborhood (\$37,960) is lower than in the county (\$44,321).

Westwood Place Community

The Westwood Place neighborhood contains a mix of older housing stock, as well as recently constructed infill residences. This neighborhood is located south of the Patton Avenue interchange at I-240. According to the City of Asheville Neighborhoods Map and a local representative, the Westwood Place neighborhood is generally bounded by I-240 to the north, Waynesville Avenue to the east, Haywood Road to the south, and I-240 to the west. Another local representative indicated that the neighborhood boundaries might extend as far east and south as the French Broad River.

This neighborhood is generally located in US Census Bureau Census Tract 10, Block Group 1. According to 2010 Census data, this neighborhood contains minority populations (9.8 percent African American and 6.7 percent Hispanic) that are somewhat higher than those in Buncombe County. As mentioned previously, Buncombe County has African American and Hispanic populations of 6.4 percent and 6.0 percent, respectively. Poverty levels in this neighborhood (18.2 percent) are only slightly higher than in the county (15.6 percent).

Burton Street Community

The Burton Street neighborhood contains a mix of older housing stock, as well as recently constructed infill residences. Burton Street residents have been active in working with NCDOT during the planning of STIP Project I-2513. This neighborhood is located in the southwest corner of the Patton Avenue interchange at I-240. The Burton Street neighborhood is generally bounded by Patton Avenue to the north, I-240 to the east, Haywood Road to the south, and Dorchester Avenue to the west.

This community comprises approximately one-half of US Census Bureau Census Tract 11, Block Group 1. According to 2010 Census data, this neighborhood contains an African American population (38.4 percent) that is roughly six times that of the county (6.4 percent), and a Hispanic population (7.6 percent) that is slightly higher than that of the county (6.0 percent). Poverty levels in this neighborhood (21.2 percent) are higher than in the county (15.6 percent), and the median income is lower (\$31,950 as compared to \$44,321 in the county).

West End/Clingman Community

The West End/Clingman neighborhood contains a mix of recently built affordable housing options and older homes. This neighborhood is located southwest of the interchange at I-240 and US 19-23-70. According to Asheville planners, the West End/Clingman neighborhood is generally bounded by I-240 to the north, Clingman Avenue to the east, Lyman Street to the south, and the French Broad River to the west.

This community comprises approximately one-third of US Census Bureau Census Tract 9, Block Group 2. According to 2010 Census data, this neighborhood contains an African American population (22.8 percent) that is approximately 3 times that in Buncombe County (6.4 percent), and a Hispanic population (3.9 percent) that is slightly less than in the county (6.0 percent). Almost half of the population (45.9 percent) lives below the poverty level, and the median income (\$17,208) is approximately one-third of the median income in the county (\$44,321). Additionally, the median age in this neighborhood (50.1) is higher than that of the county (40.6).

Hillcrest Apartments Community

The Hillcrest Apartments are operated by the Housing Authority of the City of Asheville. The complex is located northeast of the existing Patton Avenue or I-240 bridges over the French Broad River. Based upon Buncombe County GIS parcel data, the Hillcrest Apartments community is generally bounded by US 19-23-70 to the north and east, I-240 to the south, and the NS Craggy Mountain spur line of the Norfolk Southern Railway to the west.

This community comprises approximately one-fifth of US Census Bureau Census Tract 2, Block Group 1. According to 2010 Census data, this neighborhood contains the highest percentage (74.7 percent) of African Americans in the DCIA, more than 10 times that of the county (6.4 percent). The Hispanic population (1.2 percent) is lower than in the county (6.0 percent). More than half of the population (62.4 percent) lives below the poverty level, and the median income (\$15,721) is approximately one-third of the median income in the county (\$44,321). Additionally, the median age in this neighborhood (20) is half that of the county (40.6).

Houston/Courtland Community

The Houston/Courtland neighborhood is a historically African American neighborhood containing predominantly older homes. This neighborhood is located adjacent to US 19-23-70, northeast of the interchange with I-240. The Houston/Courtland neighborhood generally includes Houston Street, Courtland Avenue, and several small side streets. This community comprises approximately one-fifth of US Census Bureau Census Tract 2, Block Group 1. This is the same block group that the Hillcrest Apartments are located in, and most of the demographic statistics are the same for this community. However, while the Hillcrest Apartments contained the highest percentage of African Americans (74.7 percent), this neighborhood (26.3 percent) was approximately four times that of the county (6.4 percent). Percentages of Hispanics, low-income, and poverty were approximately the same. Hillcrest representatives indicated that the Houston/Courtland neighborhood interacts more with the Montford Neighborhood (to its north) than with Hillcrest.

Emma Road/Bingham Road Community

The area along Bingham Road around Westgate Shopping Center contains a mix of single-family homes and manufactured housing. This area is primarily within US Census Bureau Census Tract 14, Block Group 2. According to 2010 Census data, this neighborhood contains a Hispanic population (35.4 percent) that is about six times that in the County (6.0 percent). The African American population (26.3 percent) is higher than in the County (6.4 percent), as well as the percentage below poverty (40.8 percent), while median income (\$27,351) is somewhat lower than in the county (15.6 percent and \$44,321, respectively).

The Woodridge Apartments, a City of Asheville Housing Authority complex, are also located in Census Tract 14, Block Group 2. Local representatives indicated that many Hispanics live either in this complex or the adjoining manufactured home park, but that these residents typically do not attend government sponsored meetings or events.

Murphy Hill Community

There are five residences along Westwood Place, located on the north side of Westgate Plaza, in which the residents refer to their community as "Murphy Hill." An older couple residing on Westwood Place indicated that this area is identified as Murphy Hill because it overlooks the portion of Norfolk Southern Railway near the French Broad River known as Murphy Junction. The Murphy Hill residents that were interviewed indicated that they have been living there since 1945, and that many of their neighbors have been in the area since the 1940s and 1950s. All of the homes along Westwood Place are owned, with the exception of one rental home at the top of the street. Site visit interviews revealed that all residents of Murphy Hill are White senior citizens. Murphy Hill is also home to the Freeman House, which was determined eligible for listing in the NRHP in 2006. The Freeman House is a privately-owned, single-family residence.

River Arts District Community

The RAD Community is generally bounded by Patton Avenue to the north; Roberts Street, Haywood Road, Clingman Avenue, Depot Street, Bartlett Street, and Norfolk Southern Railway to the east, Oakland Road to the south, and the French Broad River to the west. Because there is some overlap between RAD and the West End/Clingman Avenue Neighborhood (WECAN) Community and the RAD was founded by a WECAN resident, it is not surprising that they seem to share similar community values. In addition, the two communities are inextricably linked

through a common history. RAD is an area of former industrial mills and warehouses that has evolved into a burgeoning arts district within the City of Asheville. In order to facilitate this effort, several local artists have banded together and established studios and living quarters in RAD. It is estimated that over 100 working artists have set up shop in the RAD Community. River District Artists (RDA) is also an active community group that was established to support RAD artists. In order to become a member of RDA, an individual must own and maintain a studio in the RAD and pay annual membership dues. This has resulted in the creation of regular events such as the River Studio Stroll, which occurs twice per year (June and November), and is now in its 14th year.

Montford Community

The historic Montford neighborhood contains a mix of older housing stock and recently constructed infill residences. The neighborhood also includes the Klondyke Apartments, a public housing facility operated by the Housing Authority of the City of Asheville. This historic neighborhood is located off of Montford Avenue and is listed as a historic district on the NRHP. According to the City of Asheville Neighborhoods Map, the neighborhood is generally bounded by Broadway to the north and east, I-240 to the south, and US 19-23-70 to the west. This community consists of US Census Bureau Census Tracts 3 and 4, Block Groups 1 and 2. According to 2010 Census data, this block group contains an African American population of 18.7 percent, approximately three times that of the county. Approximately 39 percent of the population lives below the poverty level, which is over two times as much as in the county (15.6 percent). The median household income (\$29,398) is nearly three-quarters that of the county. Additionally, the median age (31.5) is much lower than in the county (40.6).

UNC-Asheville Community

From its beginnings as Buncombe County Junior College in 1927, the university has valued liberal arts ideals and community engagement. The college joined the University of North Carolina system in 1969 as UNC-Asheville. UNC-Asheville currently has approximately 3,500 undergraduate students from 42 states and 19 countries, and about 330 full and part-time faculty. Approximately one-third of students live on campus, while another third live within a 1-mile radius of campus.

3.1.4.2 Past Transportation-Related Projects

The study area for the proposed project has been affected by past transportation-related projects. As the population of Buncombe County grew from approximately 130,000 in 1960 to 206,000 in 2000, a corresponding increase occurred in the size and scope of the transportation network. The National Interstate and Defense Highways Act of 1956 began the era of connecting population centers with controlled access freeways.

Prior to the 1960s, there were no freeways in the Asheville area. The primary routes in West Asheville, and those connecting West Asheville to downtown, were US 19-23 Bypass along Patton Avenue and US 19-23 Business along Haywood Road. The Patton Avenue crossing of the French Broad River was constructed from 1948 to 1950 and was named the Great Smoky Mountains Park Bridge (also known as the northern Captain Jeff Bowen Bridge) due to it being a “gateway” to tourism and the Great Smoky Mountains National Park. According to the *West End/Clingman Small Area Plan* (City of Asheville 1996), the extension of Patton Avenue to the Captain Jeff Bowen Bridge crossing of the French Broad River in the late 1940s bisected the WECAN and required the demolition of many homes within the neighborhood.

During the 1960s, like many parts of the country, the transportation system in Asheville expanded through the development of interstate highways. By 1970, the portions of I-40 and I-26 within the study area had been constructed; however, these highways were constructed in relatively rural settings without major disruption to any communities. In the late 1960s the construction of the “Cross-town Expressway” was completed, which severed several existing neighborhoods within the project study area. The Cross-town Expressway included a second bridge across the French Broad River, parallel to the Captain Jeff Bowen Bridge and had interchanges with US 19-23/Patton Avenue, US 19-23 Business (Haywood Road), Amboy Road, Brevard Road, and I-26/I40. The Cross-town Expressway required further relocations in the West End Clingman Area and severed several local street connections. The construction also bisected several local roadways in West Asheville that are parts of communities identified for the proposed project. The Kentucky/Hanover/Pisgah View Area Community and Fairfax/Virginia Community were once connected by streets that were bisected, including Pennsylvania Avenue, Montana Avenue, Alabama Avenue, New Jersey Avenue, and Stewart Street. The Cross-town Expressway also rerouted Amboy Road onto the expressway, severing connections to Virginia Avenue, Fairfax Avenue, and Brevard Road. Farther north, Wilmington Street was severed, which had connected the Burton Street Community directly to the Westwood Place Community. The Cross-town Expressway was redesignated as I-240 in 1976 and the name eventually faded from common use by the local residents.

During the 1970s, the only major change to the transportation system in the study area was the construction of US 19-23-70 as a freeway from Patton Avenue, northward to Madison County. There was little change in the transportation system during the period from the late 1970s to the late 1990s. In the late 1990s, the only major construction within the proposed project study area was modifying the interchange along I-240 at Brevard Road, while the early 2000s saw the completion of the extension of I-26 from Mars Hill to the Tennessee border, north of the project study area.

3.1.5 TITLE VI OF THE 1964 CIVIL RIGHTS ACT AND ENVIRONMENTAL JUSTICE

Title VI of the Civil Rights Act of 1964, and related statutes, requires there be no discrimination in federally-assisted programs on the basis of race, color, national origin, age, sex, or disability. EO 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” prohibits discrimination based on race, color, sex, and national origin in the provision of benefits and services resulting from federally-assisted programs and activities.

3.1.5.1 Environmental Justice

Environmental justice refers to the equitable treatment of people of all races, cultures, ages, and incomes with respect to development, implementation, and enforcement of environmental laws, regulations, and policies. This section identifies special populations based on those set forth in Title VI of the Civil Rights Act of 1964 and EO 12898, to ensure that the I-2513 project does not have a disproportionately high and adverse impact or deny benefits of the project. If special populations are present within the DCIA, community outreach, including meaningful non-traditional methods, will be identified.

The Council on Environmental Quality (CEQ) has oversight of the federal government’s compliance with EO 12898. CEQ has developed guidance to further assist agencies with their procedures so that environmental justice concerns are effectively identified and addressed. Based on the CEQ guidance, low-income populations should be identified with the annual statistical poverty thresholds from the US Census Bureau’s Current Population Reports (Series

P-60 on Income and Poverty). Minority populations, based on the CEQ guidance, should be identified where either (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage of the affected area is meaningfully greater than the minority population in the general population or other appropriate unit of geographic analysis. This section assesses environmental justice based on the race and low-income thresholds put forth by CEQ.

Title VI of the Civil Rights Act of 1964, and related statutes, requires there be no discrimination in federally-assisted programs on the basis of race, color, national origin, age, sex, or disability. EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," provides that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its program, policies, and activities on minority populations and low-income populations." Special populations may include the elderly, children, the disabled, low-income areas, American Indians, and other minority groups. EO 12898 requires that Environmental Justice principles be incorporated into all transportation studies, programs, policies and activities. The three environmental principles are (1) to ensure the full and fair participation of all potentially affected communities in the transportation decision-making process; (2) to avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low-income populations; and (3) to fully evaluate the benefits and burdens of transportation programs, policies, and activities upon low-income and minority populations.

3.1.5.2 Affected Populations

The DCIA has a higher percentage of minorities, elevated poverty levels, and lower median income levels than Buncombe County. Nine of the sixteen block groups included in the DSA contained percentages of minority populations (African American, Hispanic, or both) more than double the percentages in the county. Many of these block groups also had high percentages of people living below the poverty level and low median incomes.

Once the communities were identified, the following three thresholds were used to screen for minority populations that would be considered protected:

- Community minority population that exceeds 50 percent of the total community/area population, and/or
- Community minority population that is more than 10 percentage points higher than the City of Asheville's minority populations, and/or
- Community minority population that is more than 10 percentage points higher than Buncombe County's minority populations.

Typically, the minority and low-income populations are compared to the county average; however, for this project the project study team felt that comparison to both the county and city average would be beneficial in screening for protected populations. The demographics for the City of Asheville are slightly different than for the county. Buncombe County is one of only a few counties in North Carolina that have both a substantial urban population and a substantial rural population. Overall, the population of the City of Asheville only accounts for one-third of the population in Buncombe County. Because the project is located in a heavily urbanized area, the study team felt that there could be benefits to comparing the project-level demographics to both the city and county during the initial screening for protected populations.

If any of these screening thresholds is met, the community is said to have the potential for having protected minority populations.

In addition, two thresholds were used to screen for low-income populations that would be considered protected:

- Community/area low-income population that is more than 5 percentage points greater than the City of Asheville's low-income populations.
- Community/area low-income population that is more than 5 percentage points greater than Buncombe County's low-income populations.

If either of these screening thresholds is met, the community is said to have the potential for having protected low-income populations.

Using the NCDOT Demographic Analysis Tool, a spatial analysis of non-white populations was conducted for STIP Project I-2513. The NCDOT tool utilizes 2007-2011 ACS data at the block group level to identify non-white populations that are 10 percentage points higher than the corresponding non-white population in Buncombe County. As depicted on Figures 3-5a and 3-5b, the majority of the non-white population concentrations are found adjacent to the project area between Brevard Road (NC 191) and Patton Avenue (Section A) and on either side of the French Broad River between Patton Avenue and the Broadway interchange (Section B). The highest concentrations (greater than three times the county average) are in the areas encompassing the Kentucky/Hanover/Pisgah View Area, Burton Street neighborhood, West End/Clingman neighborhood, Hillcrest Apartments, Houston/Courtland neighborhood, Montford neighborhood, and the Emma Road/Bingham Road area.

Spatial analysis using 2007-2011 ACS block group data was also completed to identify areas where higher populations of persons below the federal poverty threshold resided. Eight of the sixteen block groups have concentrations of persons living below the poverty level that are twice the county average.

3.2 LAND USE AND TRANSPORTATION PLANNING

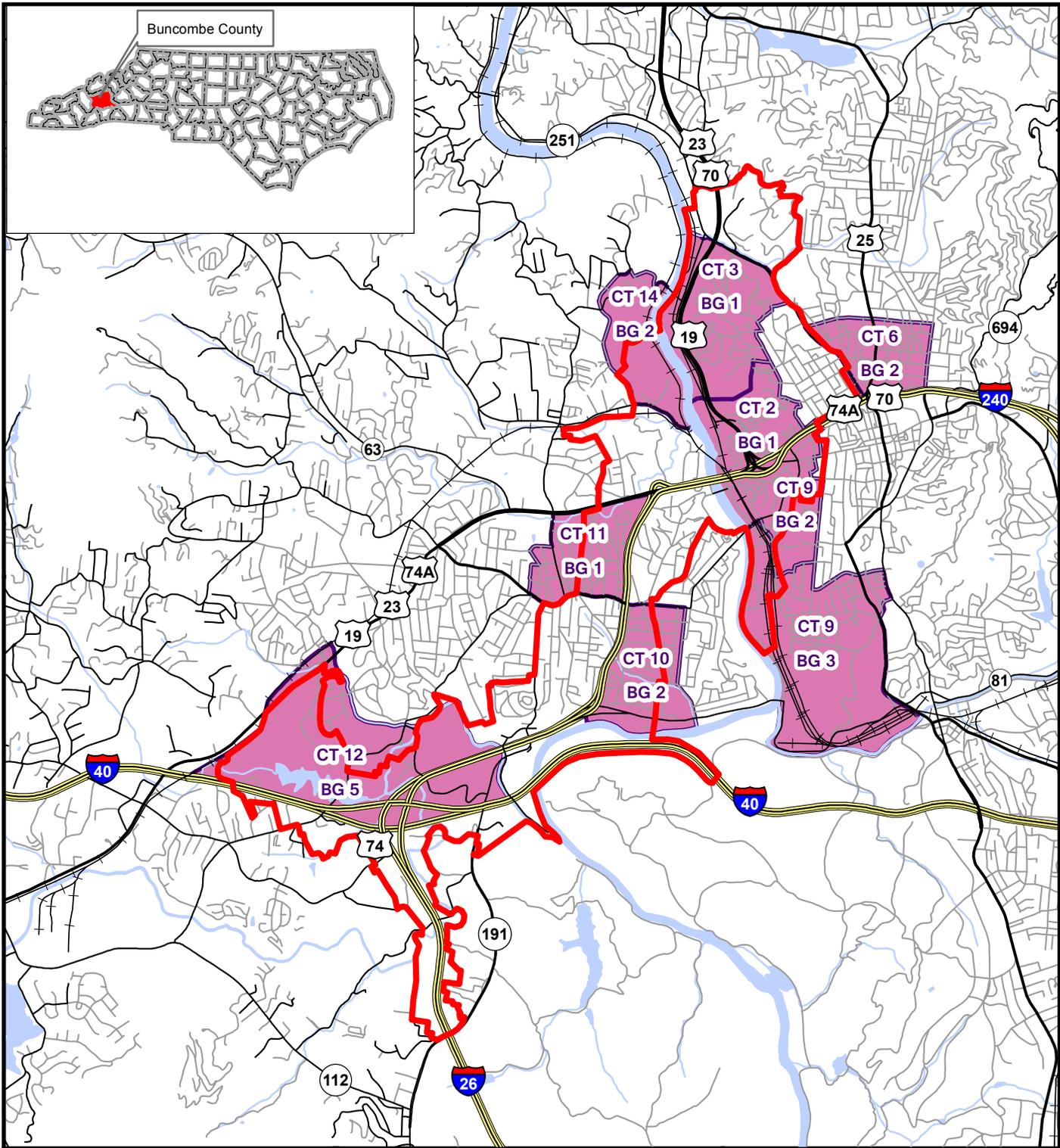
Land use and transportation planning for the FLUSA were studied in the ILUS/LUSA. Much of the information in this section comes from the findings from that assessment (HNTB North Carolina, PC 2010b).

3.2.1 LAND USE PLANS

3.2.1.1 Existing Land Use

Existing land use in the FLUSA is depicted on Figures 3-6a and 3-6b. As shown, the majority of the FLUSA is residential, commercial, institutional, or recreational in nature.

Residential development is the dominant form of land use throughout the urbanized areas of Asheville, which includes most of the FLUSA north of I-40. Most residential land use within the FLUSA is single family in nature, with minimal amounts of multi-family housing. Large amounts of land are also utilized for commercial purposes, including downtown Asheville, the US 70 corridor, the US 19-23 corridor, along the French Broad River (including the RiverLink area), and several interchanges throughout the FLUSA (including the I-240 interchanges at Haywood Road, Patton Avenue, and Biltmore Avenue and the I-26 interchange at Brevard Road).



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Direct Community Impact Area
- Block Groups with minority populations above the threshold
- Water

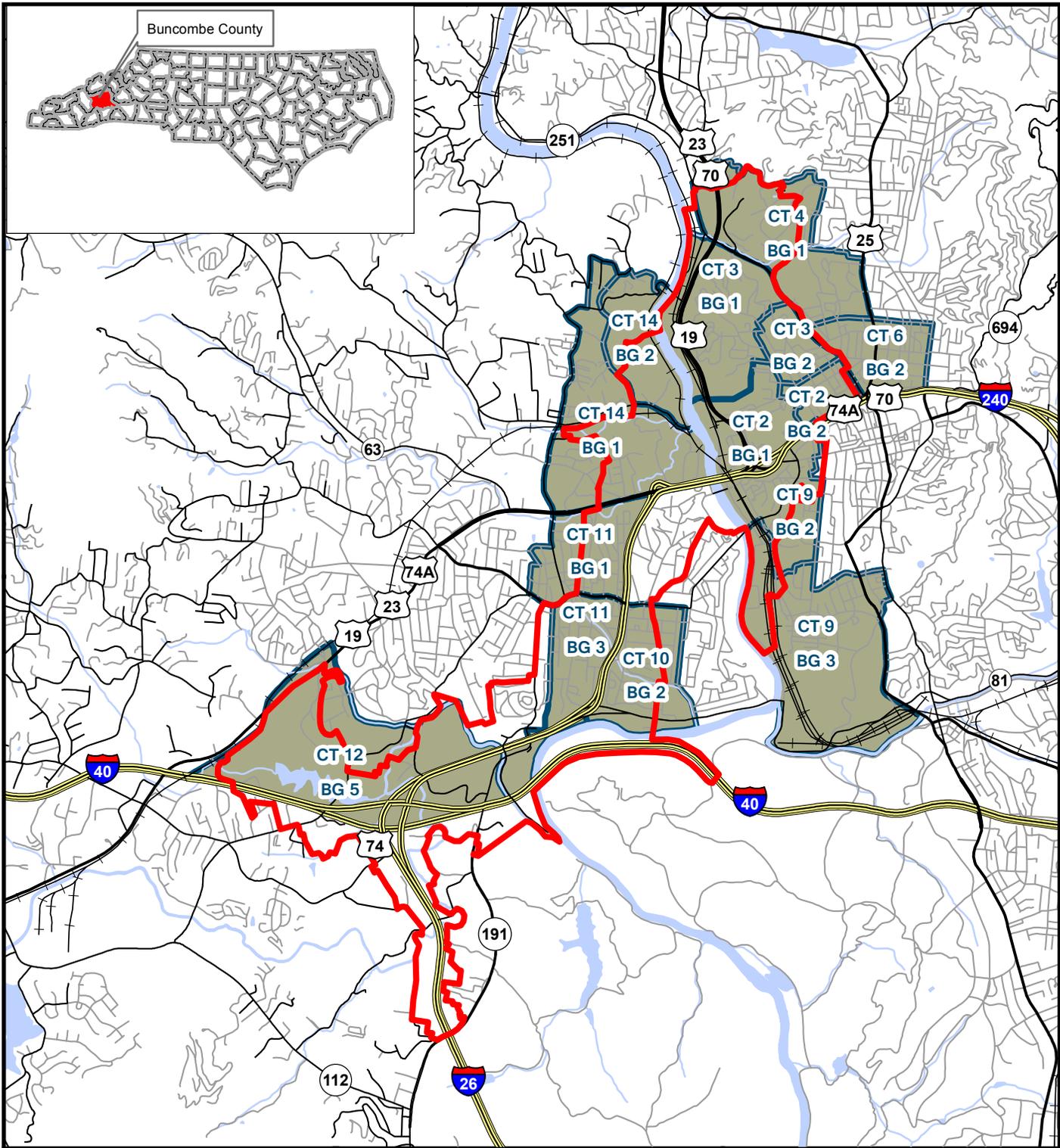
Date: May 2015



0 0.5 1
Miles

Figure 3-5a

Block Groups with Minority
Populations Above
the Threshold



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Direct Community Impact Area
- Block Groups with Poverty Rates Above the Threshold
- Water

Date: May 2015

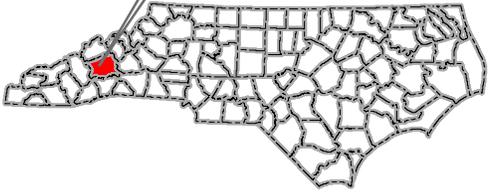


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Miles

Figure 3-5b

Block Groups with Poverty Rates Above the Threshold

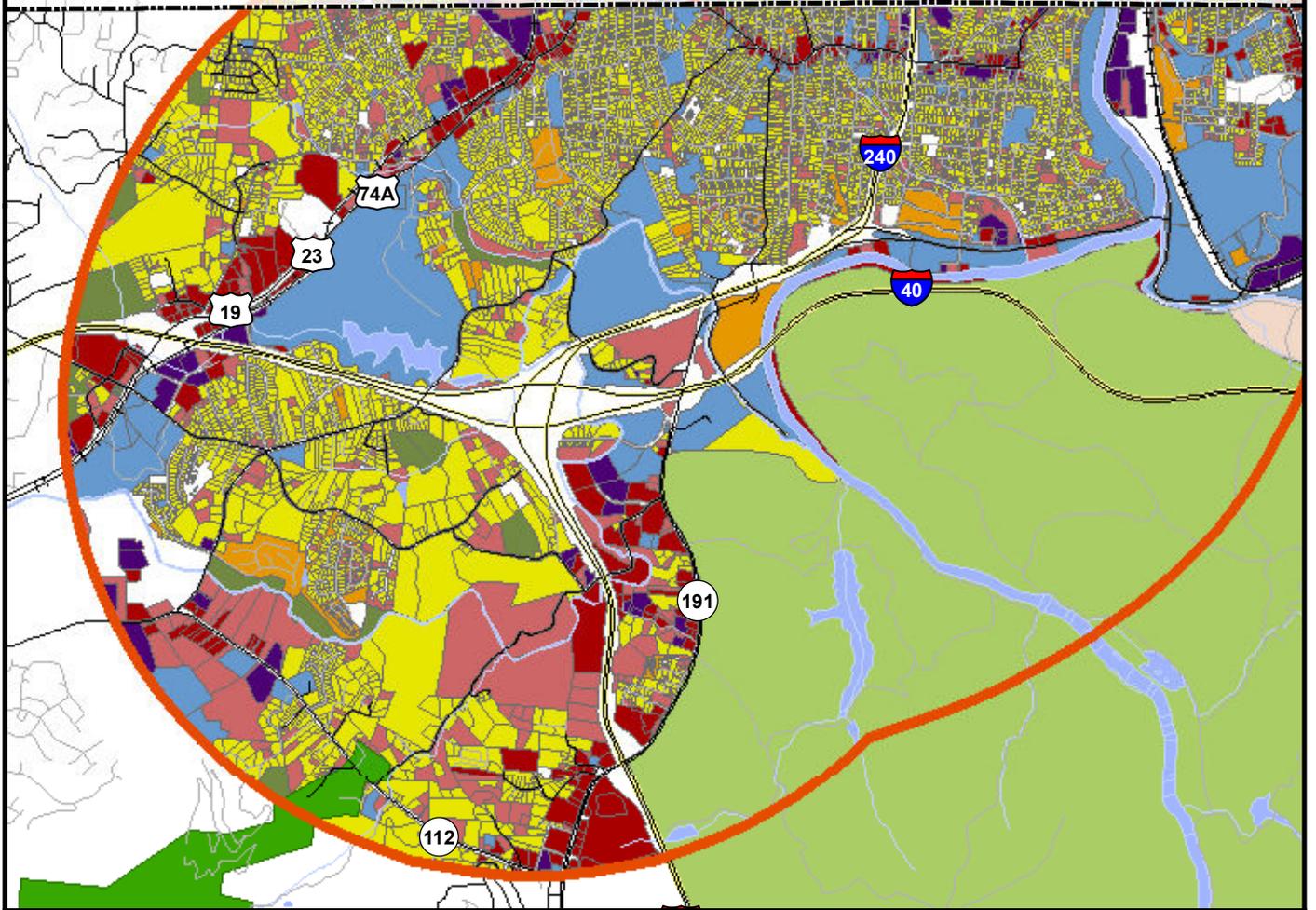
Buncombe County



Buncombe County Land Use

- Agricultural
- Commercial
- Industrial
- Institutional/Recreational
- Multi Family Residential
- Single Family Residential
- Vacant/Unknown
- Biltmore Estate

Matchline to Figure 3-6b



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Pisgah National Forest
- Future Land Use Study Area
- Biltmore Forest
- Biltmore Estate

Date: May 2015

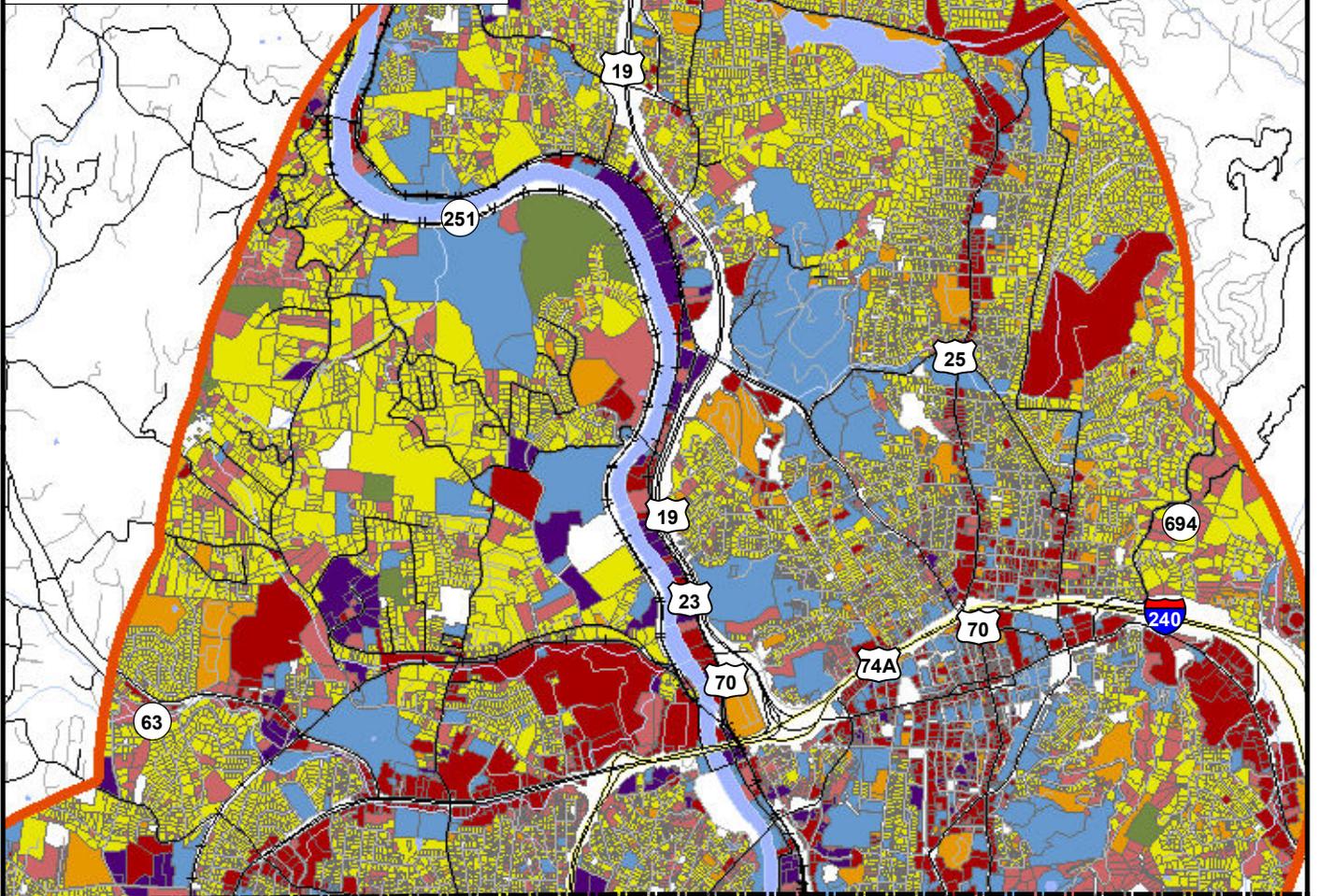


0 2,000 4,000
Feet

Figure 3-6a

Existing Land Use

Buncombe County



Matchline to Figure 3-6a

Buncombe County Land Use

- Agricultural
- Commercial
- Industrial
- Institutional/Recreational
- Multi Family Residential
- Single Family Residential
- Vacant/Unknown

North Carolina Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- Pisgah National Forest

Date: May 2015



0 2,000 4,000 Feet

Figure 3-6b

Existing Land Use

Most of the undeveloped land within the FLUSA is limited to its southwestern portion along Sardis Road, Pond Road, and Sand Hill Road and between Pearson Bridge Road and the French Broad River in the northern portion of the FLUSA. Tracts of land utilized for institutional and recreational activities, including government offices, parks, schools, and churches, are also scattered throughout the FLUSA, primarily throughout the downtown area. The Biltmore Estate is a popular tourist destination and is located in the southeastern portion of the FLUSA.

3.2.1.2 Zoning Characteristics

Zoning applicable to the FLUSA, as identified in the ILUS/LUSA, is shown on Figure 3-7. The zoning predominant throughout the FLUSA is residential, including multi-family residential, high density, single family residential, and lesser amounts of low and medium density residential. Commercial zoning is concentrated along US 25, US 19-23, US 19-23 Business, Brevard Road, the French Broad River, and throughout downtown Asheville. Much of this zoning includes typical strip commercial development along major corridors, nodal development at major interchanges (such as the Brevard Road interchange on I-26), and the central business district of Asheville.

Industrial zoning is concentrated along Pond Road and Hominy Creek in the southern portion of the FLUSA, with isolated tracts of industrial zoning scattered throughout the remainder of the FLUSA. Several tracts of land zoned for institutional purposes also exist within the FLUSA, including the Asheville School (centered on the now drained Lake Ashnocha), UNC-Asheville (along Broadway north of downtown), and along US 25 south of downtown.

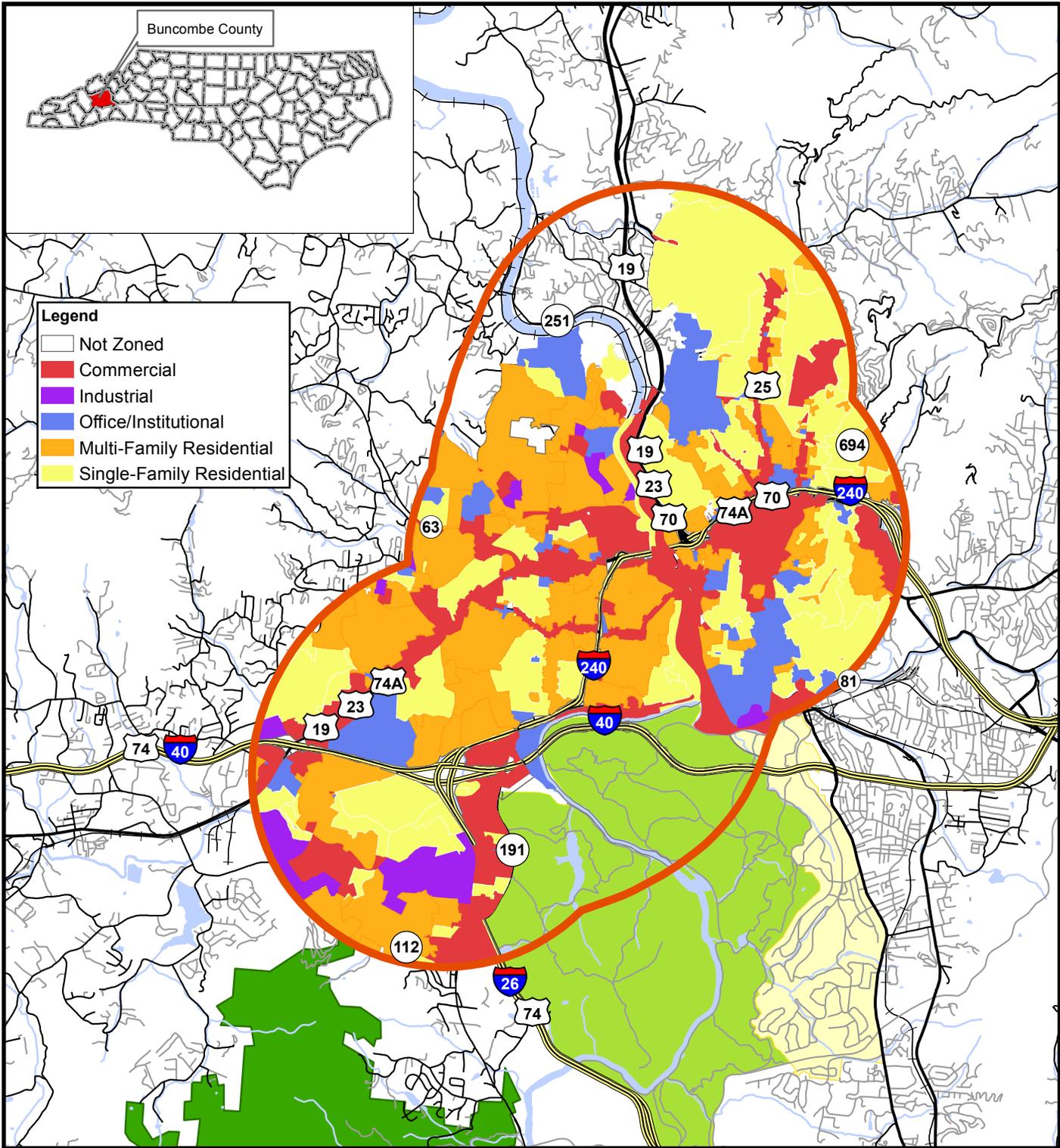
3.2.1.3 Future Land Use

A region's land use plans and recent development activity are indicators of future land use. Both of these indicators were considered in the ILUS/LUSA. The findings of that assessment are reproduced in this section (HNTB North Carolina, PC 2010b).

Land Use Plans

Land use plans applicable to the project study area are described in detail in Chapter 4 and include the following:

- *Haywood Road Corridor Study* (City of Asheville 2005d)
- *A Strategic Plan for the Sustainable Economic Development of the City of Asheville, North Carolina* (City of Asheville 2004)
- *Broadway Corridor Action Plan* (City of Asheville 2002b)
- *Asheville City Development Plan 2025* (City of Asheville 2002a)
- *Wilma Dykeman RiverWay Master Plan* (Riverlink 2004)
- *Brevard Road Corridor Study* (City of Asheville 2005a)
- *City of Asheville River Redevelopment Plan* (City of Asheville 2005e)
- *Consolidated Strategic Housing and Community Development Plan* (City of Asheville 2010a)
- *Buncombe County Comprehensive Land Use Plan Update* (Buncombe County 2013)
- *West End/Clingman Small Area Plan* (City of Asheville 1996)
- *Asheville Downtown Master Plan* (City of Asheville 2009a)
- *Asheville Unified Development Ordinance* (City of Asheville 2009b)



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Future Land Use Study Area
- Water
- Pisgah National Forest
- Municipal Boundaries
- Biltmore Estate

Date: May 2015



0 0.75 1.5
Miles

Figure 3-7

Zoning

Available Land

There are 22,563 acres of land within the FLUSA. Approximately 4,051 acres are covered by the road network and the existing rights-of-way associated with the roads, as well as streams, creeks, and surface water. Other lands assumed protected from development activities (i.e., parks, Pisgah National Forest, Natural Heritage Program Natural Areas, NRHP districts, state-owned land) total approximately 5,213 acres. However, because many of the registered Natural Heritage Program Natural Areas remain under private ownership; it should be noted that protection of the land contained within them is not guaranteed.

It was also assumed that any parcel without a structure, with a structure valued at less than \$10,000, or with a structure on land in excess of 10 acres is available for development (approximately 1,888 acres). In addition, topography that includes steep slopes is more difficult to develop. The City of Asheville's Unified Development Ordinance (section on hillside development area) and Buncombe County's Subdivision Ordinance do not prohibit development in hillside areas; however, they have controls in place to discourage development in hillside areas, particularly those with slopes greater than 15 percent (City of Asheville 2009b). It is assumed that less steep areas will develop prior to hillside areas; therefore, the 3,195 acres with slopes greater than 15 percent (NCDOT GIS data) within the FLUSA are considered more sensitive to growth and not available for development at this time.

After subtracting all aforementioned areas from the total land area, it is estimated that approximately 8,216 acres in the FLUSA (or 36 percent) could be considered available for development.

Most of the undeveloped land within the FLUSA is along Sardis Road, Pond Road, and Sand Hill Road and between Pearson Bridge Road and the French Broad River in the northern portion of the FLUSA.

Current Development Pressures

According to site visit observations and discussions with Asheville officials, the Haywood Road/Patton Avenue area is experiencing some redevelopment activity, as infill development is still occurring in the Broadway area, and the US 19-23/I-40 interchange area is continuing to experience commercial growth. Development potential along the French Broad River and Swannanoa River has been an economic goal of Asheville, and the Wilma Dykeman RiverWay study area is a key focus area. Steep costs for development have continued to hinder development opportunities in the River District area. Expanding commercial development near the Westgate Shopping Center/Crowne Plaza area is a local desire. Commercial and office growth in the Brevard Road corridor and Sand Hill Road/Sardis Road area have been stalled in recent years due to the downturn in the economic market, but there is some limited new multi-family residential development occurring along the southern Brevard Road corridor. Developable land is minimal in other portions of the FLUSA. The Biltmore Estate and built up portions of Asheville encompass much of the FLUSA, and public utilities in the Gorman Bridge Road/Pearson Bridge Road area are limited. Other portions of the FLUSA are limited due to topographical constraints.

Westgate Shopping Center, located on the northwest quadrant of Patton Avenue and the French Broad River, contains retail such as CVS Pharmacy, Earth Fare, and Westgate Alterations. FIRC Group, Inc., the developer of Westgate, indicates on its website that a "complete renovation into a modern day mixed use lifestyle center" is planned for the shopping

center. Local planners indicated that information on FIRC Group, Inc.'s Web site may be more of a vision plan for the shopping center. Furthermore, Phase I of a multi-year, multi-phased project has been constructed at Westgate. Other phases include some new construction (expansion) to the existing retail strip center.

Local officials indicated that there is a multi-year, multi-phased master plan approved for the Crowne Plaza Resort development that includes new construction that would include a sports center expansion, a mixed use office building and residential building, and a hotel/condominium with structured parking.

According to data from the North Carolina Department of Commerce-Division of Employment Security, both Buncombe County and the City of Asheville had a lower unemployment rate than the state in 2000, 2010, and 2013. Unemployment in Buncombe County and the City of Asheville have more than doubled between 2000 and 2010. Since 2010, both geographic areas experienced decreases in unemployment. Unemployment decreases for the studied geographies may be attributed to post-recession reinvestment in the manufacturing and construction industry as well as to the sharp increase in tourism, healthcare, and service-related industries.

Recent labor force estimates (December 2014) show that Buncombe County and the City of Asheville have experienced drops in unemployment to approximately 3.8 percent and 4.0 percent, respectively.

Interviews with local economic development professionals indicated that manufacturing was slowly returning to both Buncombe County and western North Carolina due to a number of factors, which include the increasing wages overseas, availability of redevelopment/infill space, and the increased expansion of ocean and inland ports. While these manufacturing facilities are unlikely to employ as many as 1,000 people, as has occurred historically, the jobs created would be those that require greater skill and provide higher pay.

Buncombe County officials indicated that the economic downturn has also tempered the development market within the county. Commercial growth is relatively stable; however, the county has lost most of its industrial base and has a 7-year supply of residential homes in excess of one million dollars. There is some redevelopment occurring near the Chamber of Commerce/Visitor Center; however, local officials indicate any changes in land uses resulting from the project would primarily occur in the mostly built out area of the Captain Jeff Bowen Bridges.

3.2.2 TRANSPORTATION PLANS

Several transportation plans relate to the study area for the proposed project, including highway plans, transit plans, and bicycle, pedestrian, and greenway plans.

3.2.2.1 Highway Plans

French Broad River MPO 2035 Long Range Transportation Plan (2010)

The proposed project is included in the 2035 LRTP adopted on September 23, 2012. The main goals of this plan are to develop and maintain a safe and efficient system for transportation, as well as enhance the environment and livability of the area by providing an optimum level of service, choice, mobility, convenience, and energy efficiency. Furthermore, the plan calls for the promotion of aesthetic treatments and improvements along the I-26 Corridor through Asheville,

the proposed widening to eight lanes and the identification of other transportation projects with a direct relationship to the I-26 Corridor. The project is consistent with the long-range transportation goals and objectives of the FBRMPO (FBRMPO 2010).

Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties (NCDOT 2008)

The proposed project is included in the *Comprehensive Transportation Plan for French Broad River MPO and Rural Areas of Buncombe and Haywood Counties* completed by the NCDOT Transportation Planning Branch that was adopted by the FBRMPO on November 15, 2007, and by NCDOT on January 10, 2008 (NCDOT 2008). The *Comprehensive Transportation Plan* supersedes the *Asheville Urban Area Thoroughfare Plan* adopted in 1994, with the documentation being completed in April 1996 (NCDOT 1996). The *Comprehensive Transportation Plan* includes the proposed project as a freeway from I-40 to Broadway that includes widening to six or eight lanes and construction of a connector on new alignment.

The *Comprehensive Transportation Plan* includes a recommendation for I-240/Future I-26 from I-40 to Broadway and notes that recurring congestion is already a problem along the length of the corridor. The recommendation, labeled Highway Project A2 for the segment, is as follows:

This project has already been identified in the Long Range Transportation Plan and the TIP as project I-2513. It should be coordinated with bicycle project A1.

The facility should be widened and a new connector constructed, facilitating the through movement of north-south traffic. Several alternatives and design scenarios are currently under evaluation and their outcome will guide the ultimate design and cross section of the new and widened facilities. Current plans call for a cross section of at least a six lane [sic] along the length of the corridor, with portions eight lane. The project may construct an additional river crossing approximately parallel to the Captain Jeff Bowen Bridges.

Bicycle project A1 is defined as constructing an off-road bicycle/pedestrian connector across I-240 in tandem with widening from Hazel Mill Road/Regent Park Boulevard to West Haywood Street.

The *Comprehensive Transportation Plan* also includes several other projects within the study area for the proposed project, as follows:

- Highway Project A21 – Wilma Dykeman RiverWay: Plan calls for sections of two or four lanes with median or a three lane section with parallel parking.
- Highway Project A22 – Amboy Road: Plan states that the corridor should be upgraded to include a median to preserve the de facto level of access control and improve the streetscape. Depending upon redevelopment plans for the area and the accompanying future traffic volumes, a four-lane section may be warranted.
- Highway Project A27 – Amboy Road Extension: A proposed extension with one lane eastbound and two lanes westbound.
- Highway Project A48 – US 19-23 Business (Haywood Road): Plan recommends that along this corridor, turn lanes should be added at intersections or possibly a two-way left turn lane be installed for all or part of the corridor.
- Highway Project A67 – Roberts Street/Lyman Street: Plan recommends that the roadway should be upgraded in coordination with the Wilma Dykeman RiverWay plans.

- Public Transportation Project A15: Local bus service along the Wilma Dykeman RiverWay.
- Public Transportation Project A22: Proposed park and ride lot at old National Guard Armory.
- Bicycle Project A4: Plan recommends constructing an off-road connector from NC 191 (Brevard Road) to the French Broad River Greenway in the vicinity of the I-240 intersection.

3.2.2.2 Transit Plans

Coordinated Public Transportation and Human Services Transportation Plan (2008)

The FBRMPO developed a plan to better coordinate the human services transportation activities (FBRMPO 2008). The plan evaluates the barriers to coordinated public transportation on the regional level and provides recommendations on how to overcome these barriers. The plan includes evaluating the demographics, developing an inventory of public transportation and community services, developing a needs assessment and prioritization of needs, and providing detailed recommendations. The recommendations that affect the study area for the I-26 Connector project include the following:

- High frequency local service along major corridors, including west of Asheville via Patton Avenue and Haywood Road
- Express bus service along I-26 to Hendersonville and points south

City of Asheville Transit Master Plan (2009)

In 2009, the City of Asheville developed the *City of Asheville Final Transit Master Plan* to establish a plan for short-term improvements (less than one year), near-term improvements (two to five years), and a ten year vision plan (HDR Engineering, Inc. of the Carolinas 2009). The plan includes service enhancements, capital improvements, and an evaluation of marketing, fares, and subsidies. The draft plan was released for public comment in September 2009 and adopted in October 2009.

Asheville Redefines Transit

Public transportation is provided by ART (City of Asheville 2014). The ART provides fixed-route bus service throughout the Asheville area, including on and around the UNC-Asheville campus, around downtown Asheville, to and from Asheville Regional Airport, to and from Black Mountain, North Carolina, and to and from Weaverville, North Carolina. A total of 17 bus routes are currently in operation:

- North: Klondyke, Montford, Downtown, MLK, Charlotte, Grovemark
- North 1: ART Station, Merrimon, UNC-A, Lakeshore
- North 2: ART Station, Merrimon, UNC-A, Beaverdam
- North 3: ART Station, Chamber, Hillcrest
- South 1: ART Station, Biltmore, Hospital, Biltmore Village, London, Shiloh, Caribou, Rock Hill, Sweeten Creek
- South 2: ART Station, Biltmore, Hospital, Forest Hill, Kenilworth, Chunns Cove, Social Security
- South 3: ART Station, Asheland, McDowell, Biltmore Village, Hendersonville Road, Airport
- South 4: ART Station, South French Broad, Depot, Livingston Heights, AB Tech
- South 5: Biltmore Avenue, Biltmore Village, Fairview Road, Swannanoa River, Wood Avenue

- East 1: ART Station, Tunnel, Asheville Mall, South Tunnel, Wal-Mart, Swannanoa River, Virginia
- East 2: ART Station, Asheville Mall, Haw Creek, Tunnel
- West 1: ART Station, Hilliard, Clingman, Haywood, PVA, Deaverview Area
- West 2: ART Station, Hilliard, Clingman, Haywood, PVA, Brevard, Biltmore Square Mall
- West 3: ART Station, Patton, Goodwill
- West 4: ART Station, Patton, New Leicester, Land of Sky
- West 5: Patton, North Louisiana, Emma
- 170: ART Station, Tunnel Road, Warren Wilson, Swannanoa, Black Mountain

Transit outside the City of Asheville is provided by Mountain Mobility and is administered by the Buncombe County Planning and Development's Transportation Division (Buncombe County Transportation 2007). In addition, paratransit transportation is provided by Mountain Mobility under contract to the ATS. Mountain Mobility also offers "Trailblazer" routes that serve areas of north Buncombe and Black Mountain. Other regional transit connectivity is provided through a link with Apple Country Transit located in Hendersonville. Buses share a common transfer location near the Asheville Regional Airport. Ride sharing is coordinated through the City of Asheville's Transportation Demand Management Program (Share the Ride NC 2007). An additional alternative for commuters is the Hop & Ride program operated by the ATS, which is designed to help commuters south and west of Asheville to avoid hassles associated with parking and driving downtown. Parking is free for riders and the service has targeted destinations at the Biltmore Square Mall and the Goodwill Industries. Intercity bus service is provided by Greyhound Lines Incorporated, with a local station on Tunnel Road south of I-240, east of the project area.

3.2.2.3 Bicycle, Pedestrian, and Greenway Plans

City of Asheville Pedestrian Plan (2005)

The Pedestrian Plan includes a section on pedestrian connectivity and the I-26 Corridor describing opportunities for providing pedestrian access through both the proposed project and the NCDOT STIP Project A-10 (City of Asheville 2005b). In addition, the Pedestrian Plan shows three existing pedestrian bridges crossing I-240 within the project study area. One pedestrian bridge is located slightly west of the I-240 interchange with US 19-23-70/Patton Avenue and one is located slightly east of this interchange. The third pedestrian bridge, which is now closed due to safety concerns, is located slightly north of the I-240 interchange with SR 3556 (Amboy Road). This plan was developed to prioritize capital improvements and maintenance projects with special consideration for Americans with Disability Act compliancy and pedestrian mobility and safety. The plan indicated that the intersection of Riverside Drive and Broadway is the desired northern terminus for the Wilma Dykeman RiverWay (STIP U-5019) and that potential exists for a "Rail Trail" connection to Woodfin. With respect to the project, the plan recommends a separate bicycle/pedestrian bridge in conjunction with the roadway structure over the French Broad River. The plan indicated that Haywood Road and State Street are critical connections for the pedestrian plan and that pedestrian connectivity with Patton Avenue is also desired.

City of Asheville Comprehensive Bicycle Plan (2008)

The City of Asheville completed the *City of Asheville Comprehensive Bicycle Plan* (Bicycle Plan), which was adopted by the Asheville City Council on February 26, 2008 (City of Asheville 2008). This plan complements *The City of Asheville Pedestrian Plan* (City of Asheville 2005b), which was adopted in February 2005 and supersedes the 1999 *Pedestrian and Bicycle*

Thoroughfare Plan. The Bicycle Plan includes recommendations for bicycle facilities on Pond Road, Sand Hill Road, Brevard Road, Amboy Road, Fairfax Avenue, State Street, Haywood Road, Patton Avenue, Emma Road, Riverside Drive, Hill Street, Pearson Bridge Road, and Broadway. The Bicycle Plan also recommends that the proposed project include bicycle access across the Captain Jeff Bowen Bridges as well as part of the extension of Amboy Road.

City of Asheville, North Carolina Parks, Recreation, Cultural Arts, & Greenways Master Plan (2009, updated 2013)

This plan is an update to the *Asheville Greenways Master Plan Report* (City of Asheville 1998). The plan is intended to help meet the needs of current and future residents by positioning Asheville to build on the community's unique parks and recreation assets and identify new opportunities. The plan identifies two future park sites within the DCIA: Jean Webb and Progress Energy Park. The I-26 Connector is not explicitly mentioned in the plan.

3.2.2.4 Other Local Plans

In addition to the land use plans, highway plans, transit plans, and bicycle, pedestrian, and greenway plans described above, several local plans relate to the proposed project. Additional plans are discussed greater detail throughout the document and include the following:

- Land of Sky Regional Council "Regional Vision 2010"
- Asheville City Council Resolution 00-168 – Resolution Supporting the Report and Recommendations of the Community Coordinating Committee Regarding the I-26 Connector Project (2000)
- *Sustainability Management Plan* (City of Asheville 2009d)

3.3 PHYSICAL ENVIRONMENT CHARACTERISTICS

3.3.1 NOISE

This section is based on the *Traffic Noise Analysis for the I-26 Connector* prepared in August 2015 (NCDOT 2015d). Traffic noise impacts were determined from the procedures for the abatement of highway traffic noise and construction noise appearing in 23 CFR 772, as well as the *NCDOT Traffic Noise Abatement Policy* (July 2011). The analysis was conducted using FHWA's Traffic Noise Model (TNM) version 2.5.

Noise can be defined as any sound that is undesirable. The magnitude of noise is defined by its sound pressure level (SPL), which is related to the ratio of the measured sound pressure over a reference sound pressure. The reference pressure is the pressure of the weakest sound audible to a healthy human hearing system. The resulting quantities from the ratio equation are expressed in terms of decibels (dB) on the SPL scale. A dB is an interval on the SPL scale, with 0 dB as the threshold of hearing and 130 dB as the level that causes pain.

A-weighted sound level quantities often correlate well with the subjective response of people to the magnitude of a sound level. For example, A-weighting takes into account the fact that humans are more sensitive to higher frequency sounds than lower frequency sounds. The term decibel is often abbreviated as dBA, meaning the sound, or noise, levels are A weighted.

Noise descriptors have been developed to more fully describe the noise environment and its effects on human activities. The most commonly used descriptor for vehicular traffic noise is the

equivalent sound level (Leq), which is defined as the steady state sound level that contains the same acoustic energy as the actual time varying sound level occurring over the same time period. Sound levels in this section are given as Leq for a one hour time period.

3.3.1.1 Ambient Noise Measurements for Alternatives

Existing and ambient background noise measurements were taken in the vicinity of the project to determine existing noise levels for the identified land uses. The purpose of this noise level information was to quantify the existing acoustic environment and to provide a basis for assessing the impact of noise level increases. There are 10 traffic noise measurement sites, 5 ambient background noise measurement sites, and 2 long-term noise measurement sites.

Table 3-9 provides a description of each short-term noise measurement site and the noise measure results. As shown in the table, measured Leq noise levels ranged from 48.0 dBA to 71.7 dBA for the traffic noise readings and from 48.2 dBA to 59.7 dBA for the ambient measurements. The noise measurement sites are shown on Figure 3-8.

3.3.2 AIR QUALITY

This section is based on the *Air Quality Analysis Update Technical Memorandum for the I-26 Connector Project, TIP No. I-2513* (NCDOT 2015a).

3.3.2.1 Background and National Ambient Air Quality Standards

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Motor vehicles emit carbon monoxide (CO), nitrogen oxide (NO_x), hydrocarbons, particulate matter (PM), sulfur dioxide (SO₂), and lead (Pb) (listed in order of decreasing emission rate).

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The most recent amendments to the NAAQS contain criteria for SO₂, PM (10 microns and smaller (PM₁₀), PM 2.5 microns and smaller (PM_{2.5}), CO, nitrogen dioxide (NO₂), ozone (O₃), and Pb.

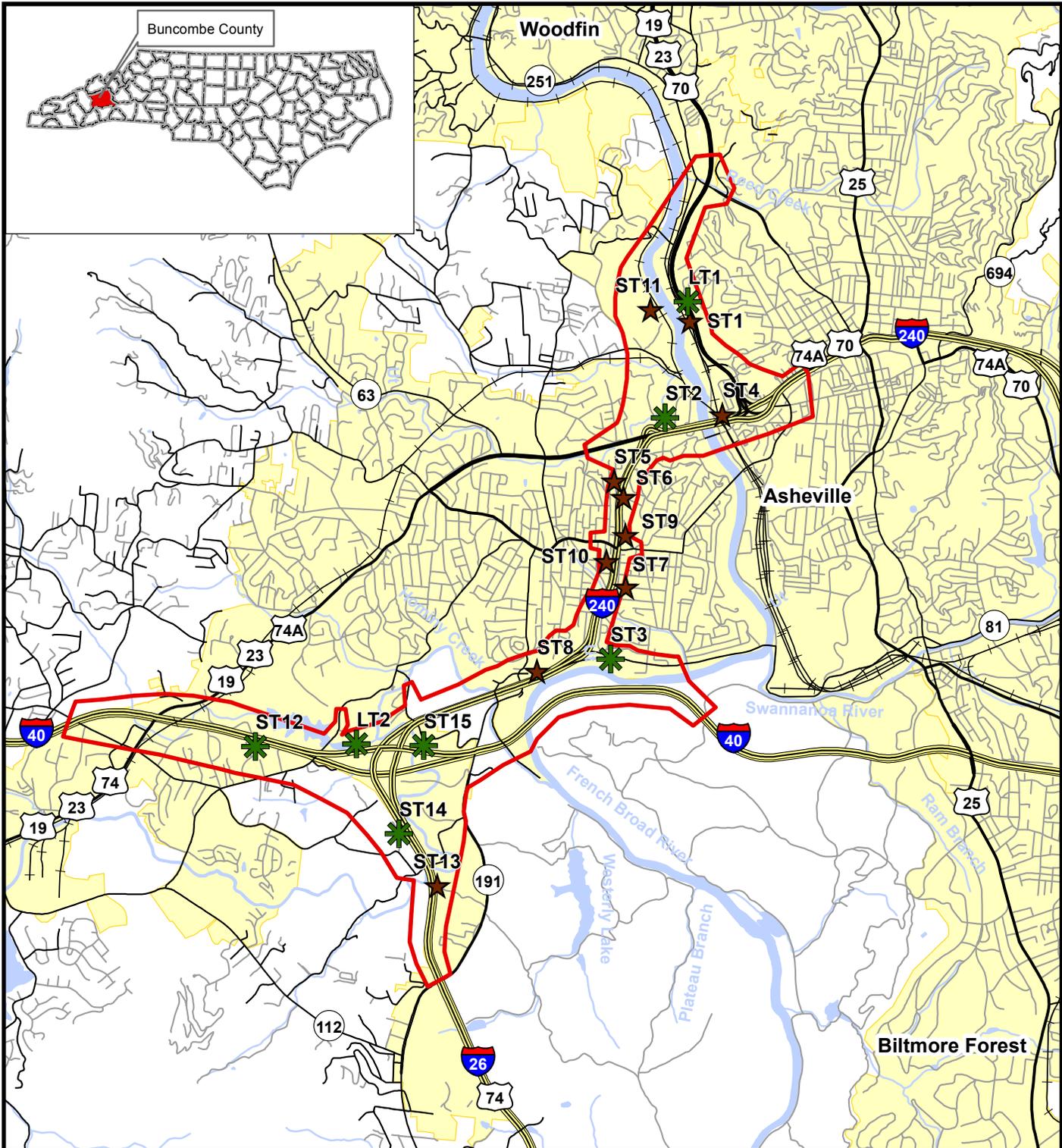
The primary pollutants from motor vehicles are unburned hydrocarbons, NO_x, CO, and particulates. Hydrocarbons and NO_x can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as O₃ and NO₂. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems.

Table 3-9: Ambient Noise Levels (Leq)

Site	Location	Site Type	Noise Level (dBA)
ST1	West side of warehouse east of I-26 at 556 Riverside Drive, north of I-26/I-240 interchange.	Traffic	67.5 65.5
ST2	Crowne Plaza Resort tennis courts north of Patton Avenue.	Ambient	48.2

Site	Location	Site Type	Noise Level (dBA)
ST3	Amboy Road/French Broad River Greenway near Carrier Park.	Ambient	58.8
ST4	Near I-26/I-240 interchange at the Hillcrest Apartments.	Traffic	67.3 62.1 64.1
ST5	Near St. Paul's Missionary Baptist Church and nearby residence. East of I-26, south of the I-26/Patton Avenue interchange.	Traffic	71.7 57.0 52.6
ST6	Residential neighborhood, southwest of I-26/Patton Avenue interchange along Wilmington Street.	Traffic	66.5 63.1 64.2
ST7	Residences near Hanover Street/Alabama Avenue intersection, west of I-26.	Traffic	65.4 60.9 58.8
ST8	Residences northeast of I-26/I-40 interchange along Fairfax Avenue.	Traffic	60.5 58.6 59.6
ST9	Asheville Preschool at Haywood Road and Argyle Lane.	Traffic	68.3 57.4 56.8
ST10	Residences along Pennsylvania Avenue, west of I-26, south of Haywood Street.	Traffic	54.6 51.2 48.0
ST11	Mobile home park near Keith Drive and Emma Road.	Traffic	53.8 50.8
ST12	Front of residence near street that dead ends at noise wall adjacent to I-40.	Ambient	58.5
ST13	Schumacher Homes business office, 98 Dogwood Place and I-26.	Traffic	64.9 63.7
ST14	Residence west of I- 26, used for background noise level.	Ambient	58.7
ST15	RV park elevated above I-40/I-26 interchange.	Ambient	59.7

Source: *Traffic Noise Analysis for I-26 Connector* (NCDOT 2015d).



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Ambient Noise Reading Location
- Traffic Noise Reading Location
- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: May 2015



0 0.5 1
Miles

Figure 3-8

Noise Measurement Locations

3.3.2.2 Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the US Environmental Protection Agency (USEPA) also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, nonroad mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that USEPA regulate 188 air toxics, also known as hazardous air pollutants. USEPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (<http://www.epa.gov/iris/>). In addition, USEPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics (MSAT), the list is subject to change and may be adjusted in consideration of future USEPA rules.

Based on an FHWA analysis using USEPA's MOVES2010b model, as shown on Figure 3-9, even if VMT increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

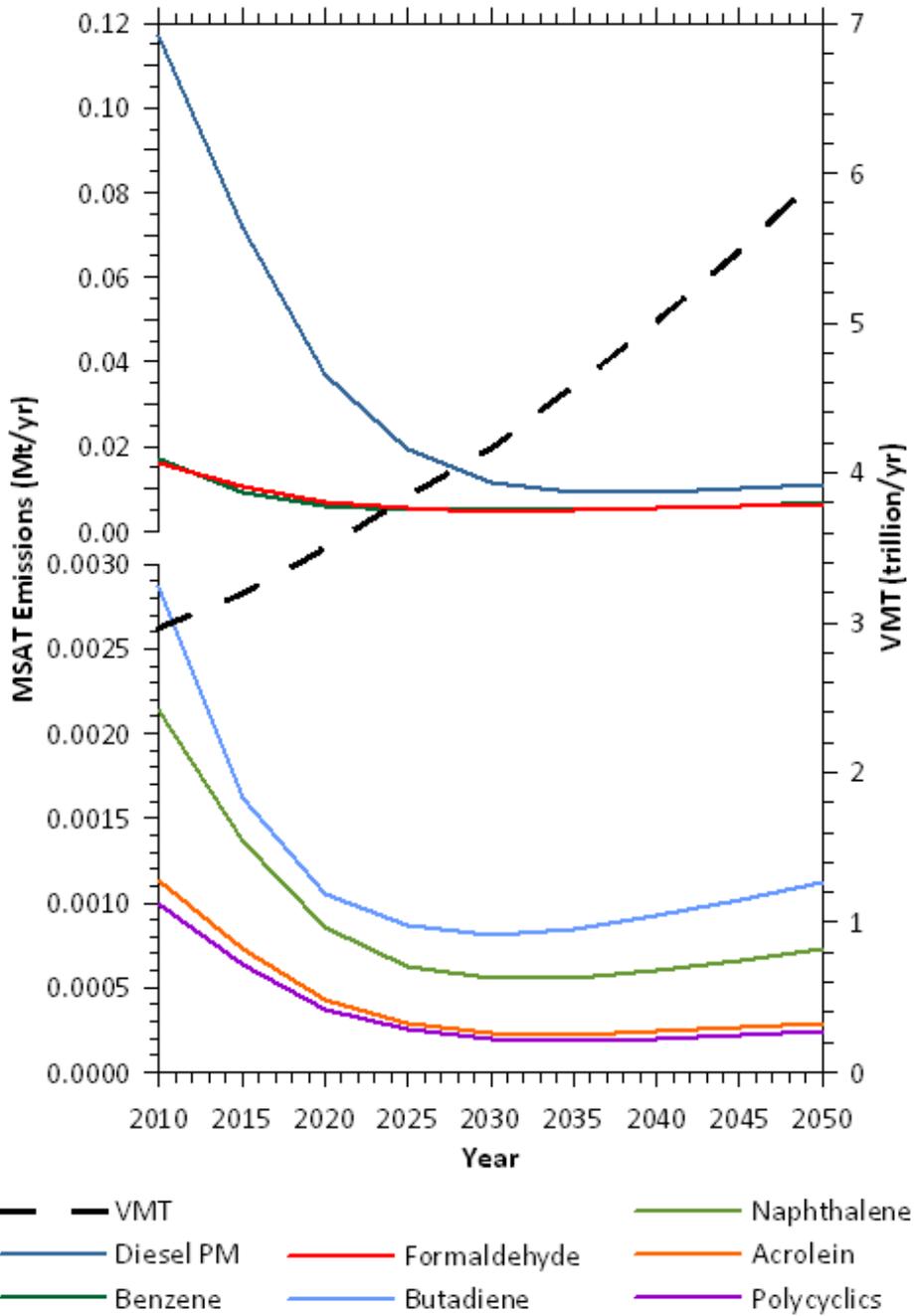
3.3.3 FARMLANDS

Criteria for identifying and considering the effects of federal programs on the conversion of farmland to nonagricultural uses are established in the Farmland Protection Policy Act (FPPA) (7 CFR 658). For the purposes of the FPPA, important farmland is divided into three categories: prime, unique, or of local or statewide importance (Public Law 97-98, Subtitle 1, Section 1540). The three categories are defined as follows:

- Prime farmland is land that has “the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soils erosion” (Public Law 97-98, Subtitle 1, Section 1540). Land already in or committed to urban development or water storage is not included.
- Unique farmland is land used for production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed (Public Law 97-98, Subtitle 1, Section 1540).
- State and locally important farmland is land of statewide or local importance for the production of food, fiber, forage, or oilseed crops as determined by the appropriate state or local government agency (Public Law 97-98, Subtitle 1, Section 1540).

The project location is in the urbanized area of Asheville. The land in the vicinity of the project is sufficiently planned and actively being used for urban purposes. Thus, further analysis of prime and unique soils is not required in accordance with FPPA guidance.

Figure 3-9: Total Annual Emission Rate



Source: EPA MOVES2010 model runs conducted during May - June 2012 by FHWA.

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

3.3.4 UTILITIES

A Utilities Conference was held on September 1, 2005, to provide general project corridor locations to utility owners and to update NCDOT's drawings using owners' input and comments. Members of NCDOT, Progress Energy, BellSouth, Metropolitan Sewer District of Buncombe County (MSD), the City of Asheville, Public Service Company of North Carolina (PSNC), and TGS Engineers attended the conference (Rhea 2005).

3.3.4.1 Electric

Electric service to local residents and businesses is provided by Progress Energy. Progress Energy has an office building located in the southwest quadrant of the I-40/NC 191 (Brevard Road) interchange. This office building contains the Western North Carolina administrative offices of Progress Energy. In addition to the office building, Progress Energy has multiple support facilities at this site. Most of Progress Energy's services and support for western North Carolina are handled from this location. Progress Energy has electric transmission lines within the study area that run east-west, south of the I-26/I-40/I-240 interchange. The electric transmission lines then cross NC 191 (Brevard Road) south of I-40 before turning north paralleling the French Broad River on the west bank. These transmission lines continue to parallel the French Broad River northward until SR 3548 (Haywood Road) where they proceed northwest over I-240 and the Crowne Plaza Resort before exiting the study area.

3.3.4.2 Water

Water service within the project study area is provided by the Regional Water Authority of Asheville-Buncombe-Henderson. Water service is widespread in urbanized portions of Asheville and Woodfin, as well as Sardis Road, West Oakview Road, and Gorman Bridge Road areas in unincorporated Buncombe County (HNTB North Carolina, PC 2010b). The water lines are shown on Figures 3-10a and 3-10b.

3.3.4.3 Wastewater

Wastewater within the project study area is provided by the MSD. Sewer lines are located throughout the project area. Service areas within the project study area include most incorporated portions of Asheville and Woodfin, as well as the Hominy Creek area in the southern portion of the project study area. During the Utilities Conference, MSD confirmed that parts of the sewer system within the city are aging and need to be replaced. This was found to be especially true between Patton Avenue and the French Broad River. MSD anticipates the need for line replacements within the project study area. The locations of sewer lines are shown on Figures 3-10a and 3-10b.

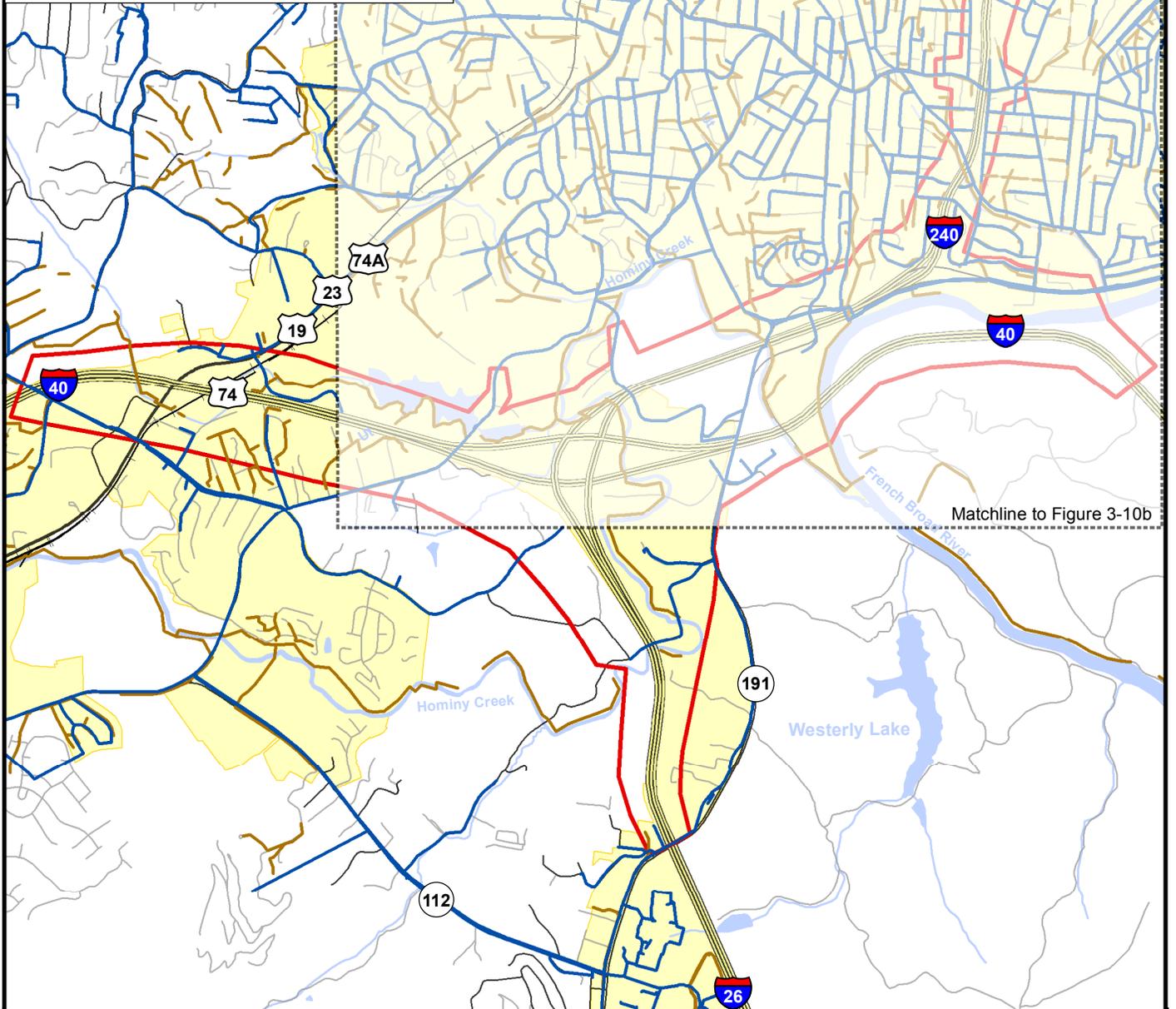
3.3.4.4 Solid Waste/Recycling

The City of Asheville provides weekly curbside collection for residents. Curbside recycling is also provided to residents desiring to participate. Recycling is collected on designated pick up days every other week.

3.3.4.5 Natural Gas

Natural gas is distributed and serviced throughout the study area by PSNC.

Buncombe County



Matchline to Figure 3-10b

North Carolina
Department of Transportation



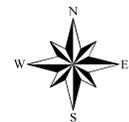
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Water Lines
- Sewer Lines
- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

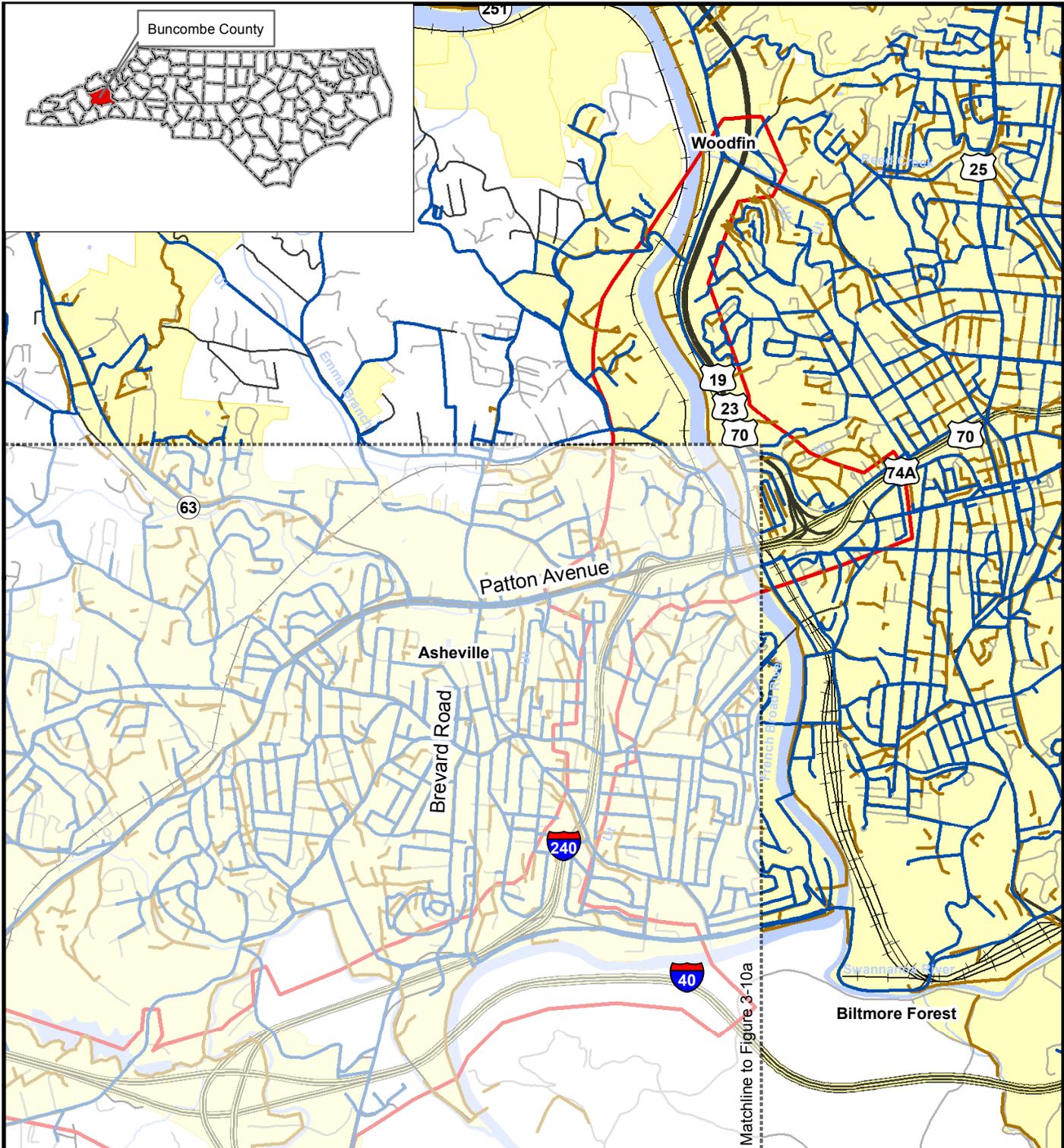
Date: May 2015



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Miles

Figure 3-10a

Utilities



Buncombe County



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

-  Water Lines
-  Sewer Lines
-  Interstate
-  US Route
-  NC Route
-  State Route
-  Local Road
-  Railroad
-  Streams (non-delineated)
-  Project Study Area
-  Water
-  Municipal Boundaries

Date: May 2015



0 0.25 0.5
Miles

Figure 3-10b

Utilities

3.3.4.6 Telephone

Telephone service is provided to the project study area by Bell South and AT&T. Bell South and AT&T has telephone and fiber optic cable along the major roads (especially Patton Avenue) crossing the project. Overhead telephone lines and buried cable supported by Bell South are present on the northwest side of the study area, near Brevard Road.

3.3.5 VISUAL QUALITY

Located in the mountainous regional landscape of North Carolina, the visual background of the project study area is comprised of changes in elevation punctuated by peaks, ridge lines, and valleys, and the winding course of the French Broad River. The city of Asheville is generally situated on a hill crest on a mountainous plateau along the French Broad River. The project study area runs in a north-south direction just west of the Asheville downtown area.

The visual features in the project area consist of a variety of manmade and natural landscapes that include residential neighborhoods, industrial development, scattered homes, transportation (streets and highways) features, wooded uplands, streams, and the French Broad River. The project study area is comprised of three sections from south to north (Sections C, A, and B). Each of the three sections has a corresponding viewshed, the features and attributes of which are described in this section of the DEIS.

3.3.5.1 Section C

Section C, at the southern end of the project, includes the I-26/I-40/I-240 Interchange. The interchange and corresponding I-26, I-40, and I-240 highway corridors are prominent features of this section's viewshed. Views from the highway include the surrounding mountain peaks and ridges in the distance and wooded and open areas, scattered residences, and industrial development nearer to the right-of-way. The viewshed in this section of the project study area also includes the area along I-40 east of the interchange, across the French Broad River, and approximately 0.75 mile onto the northwestern-most portion of the Biltmore Estate property. The Biltmore Estate, a National Historic Landmark (NHL), is the most prominent visual resource in the project study area. Views from I-40 include vistas of the French Broad River and agricultural fields to the north and meadows and woodlands on the Biltmore Estate to the south. The interchange and highway corridors are prominent existing visual features of the landscape as viewed from the Biltmore Estate property.

3.3.5.2 Section A

Section A includes the portion of I-240 between I-40 to the south and Patton Avenue to the north. The features of the landscape that comprise the viewshed in this section range from open and wooded areas and the French Broad River at the southern end, transitioning to residential, commercial, and industrial development to the north. Overhead utilities, streets, and highways are also prominent. The background views from the highway include mountain peaks and ridge lines. No important visual resources such as overlooks or scenic vistas from parks or historic resources have been identified in this section.

3.3.5.3 Section B

Section B is at the northern-most end of the project and includes the area from the I-240 interchange with US 19-23-74A/Patton Avenue west of the French Broad River north to the

US 19-23-70 interchange with Broadway. This viewshed is adjacent to the urban core of downtown Asheville and is generally comprised of urban land use features such as residential neighborhoods and commercial and industrial development. From certain vantage points at higher elevations in the project study area, the French Broad River and industrial land uses that line the eastern bank of the river are visible. Other prominent features in the viewshed include overhead utilities, streets, highways, and bridges over the river. The Captain Jeff Bowen Bridges, which carry traffic from I-240, US 19-23-74A, and Patton Avenue, are visually prominent from lower elevations near the river front.

3.3.6 HAZARDOUS MATERIAL

The presence of soil and/or groundwater contamination, or the existence of hazardous substances within existing or proposed right-of-way areas can adversely affect the cost and schedule to complete a transportation improvement project. Contaminated soil located during construction could require special treatment and disposal and would not be usable to backfill excavations. In addition, locating a transportation project adjacent to a site where hazardous materials are present could result in long-term effects on the site by the transportation activities or, conversely, the hazardous materials could pose a future threat to the viability of the facility and the citizens who use it. The early identification of potential contamination sites that could adversely affect the project provides valuable information for project planning and design.

3.3.6.1 Method

A limited pre-scoping investigation of the project area was conducted to provide an early identification of any geotechnical and geoenvironmental issues that might impact the project's planning, design, or construction (NCDOT 2006a). This effect was revisited by the Geotechnical Engineering Unit/GeoEnvironmental Section in 2014 using the GIS databases and aerial photos within the expanded project study area (NCDOT 2014c).

Limited Phase I Site Assessments were utilized to identify known environmentally impacting sites in relation to the project corridor. Limited Phase I Site Assessments included the review of environmental databases, review of files at the Asheville Regional Office of the North Carolina Department of Environment Quality (NCDEQ) and field reconnaissance conducted by Environmental Investigations, Inc. (URS 2006a). During the preparation of this DEIS, the NC Department of Natural Resources (NCDENR) was renamed to the NCDEQ.

A partial field verification of the hazardous waste sites in the northern and southern sectors has occurred during the investigation work on the adjacent A-10A and the I-4400 projects. A full field investigation and identification of unknown sites will be performed during the project final design phase.

3.3.6.2 Findings

Fifty-one potential hazardous sites were identified by the *Revised Geotechnical Pre-Scoping Report* within the project area, as shown in Table 3-10 and on Figure 3-11.

Hazardous Waste Sites

No hazardous waste sites were identified within the project limits.

Table 3-10: USTs, Landfills, and Other Potentially Contaminated Sites

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
1	UST	95 Highland Center Boulevard	0-004206	Silver Brothers Inc.	T Pressley Trucking/Silver Brothers Property LLC	Petroleum-contaminated soils	Low	Former T. Pressley Trucking; 7 tanks closed in 1999; GWI 21627
2	Truck Shop	100 Highland Center Boulevard	N/A	West Carolina Freightliner	Farm Equipment Company of Asheville Inc.	Petroleum-contaminated soils	Low	Currently West Carolina Freightliner; truck shop
3	UST	301 Smoky Park Highway	0-000439	Mountain Energy # 18	Mountain Energy Corporation/ Morgan Legacy LLC	Petroleum-contaminated soils	Low	Active gas station/store; four tanks closed in 1994 and 5 current tanks; GWI 3754
4	UST	295 Smoky Park Highway	0-004255	Quality Properties LP	Mountain Empire Oil Company	Petroleum-contaminate soils	Low	Active gas station/store; five tanks closed in 1987, one tank closed in 1994 and four current tanks; GWI 10386, 22147
5	UST	305 Smoky Park Highway	0-007340	Dunkin Donuts	Citizens Fuel Company Superior Properties of Asheville	Petroleum-contaminated soils	Low	Currently Dunkin Donuts; Former Citizens Fuel Co #11; four tanks closed in 2004; GWI# 3752
6	Auto Repair Shop	9 Crowell Road	N/A	Smoky Mountain Auto Service	Marion Waldman and Roland Herbstreit	Petroleum-contaminated soils	Low	Operates as a repair shop
7	UST	285 Smoky Park Highway	Unknown	Leonard's Auto Mart	Leonard and Veronica Crook	Petroleum-contaminated soils	Low	Old service station; facility ID unknown; currently used car lot
8	UST	266 Smoky Park Highway	0-004596	Several Businesses Mountain Tops Inc.	Adam Cornelia	Petroleum-contaminated soils	Low	Old service station (possibly former Smoky Park Chevron)

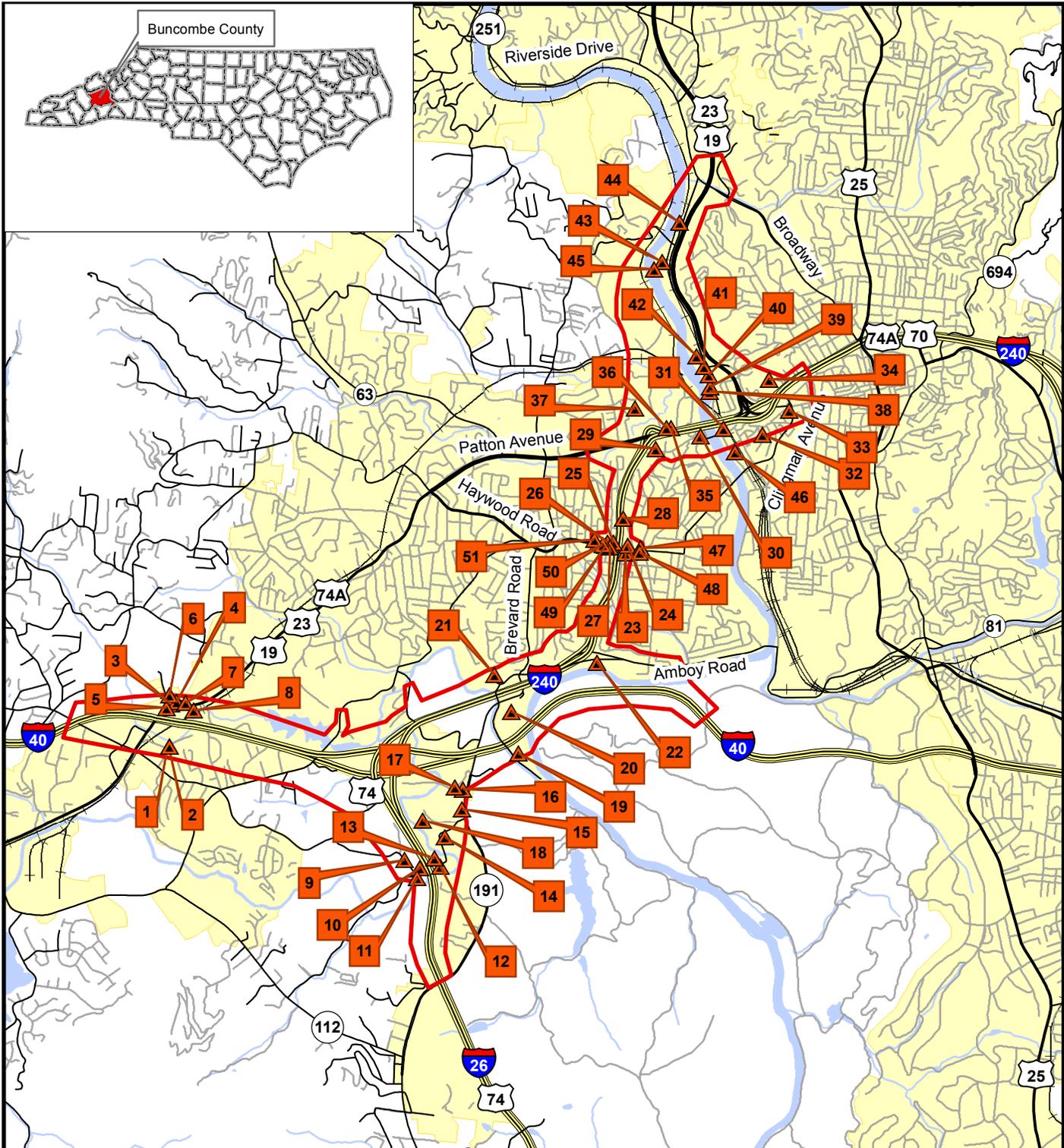
Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
9	Machine Shop	90 McIntosh Road	N/A	Mitch's	William Bethune Trustee	TCH-contaminated soils	Low	RCRA requires soil cleanup; GWI# 13788
10	UST	99 Pond Road	N/A	JMJ Tomato Properties LLC	JMJ Tomato Properties LLC	Petroleum-contaminated soils	Low	Possible old gas station; no UST information; I-4400/4700 Site # 21 & B-5178 Site 3
11	Construction Debris	116 Pond Road	N/A	Henson's Inc. Mulch & More	Murmax, LLC	Construction, municipal and industrial yard waste	Low	Currently operates as landscaping supply facility; I-4400/4700 Site # 22 & B-5178 Site 4
12	UST	80 Pond Road	0-036323	Southern Concrete Materials Inc.	Southern Concrete Materials Inc.	Petroleum-contaminated soils	Low	Currently a concrete plant; former Pond Road Landfill; I-4400/4700 Site # 20 & B-5178 Site 2
13	Landfill/ Recycling	79 Pond Road	N/A	Mountain Metals recycling	Sonia G. Gribble	Brownfields Program Pond Road Landfill 09032-05-11	Low to Moderate	Currently a recycling center; former Pond Road Landfill; I-4400/4700 Site # 19 & B-5178 Site 1
14	UST Recycling	24 Pond Road	0-007878	Waste Management Recycling	Waste Management of Asheville/Waste Management of Carolinas Inc.	Petroleum-contaminated soils	Low	Currently a recycling facility; four tanks closed in 1992
15	UST	601 Brevard Road	0-004214	Former Homer Smith Exxon	Homer Smith	Petroleum-contaminated soils	Low	Currently junk car; four tanks closed in 1998; GWI# 19970
16	UST	589 Brevard Road	0-004608	Subway Quick Trip # 1	ISI Enterprise	Petroleum contaminated soils	Low	Restaurant/gas station; five tanks closed in 2007; three current tanks; GWI# 28302

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
17	UST	251 E. Oakview Road (12 East Oakview Road)	0-007247	Thurston Motor Line	Ed Weisiger (UST Owner) Thurston Motor Line	Petroleum-contaminated soils	Low	Former Brown Transport; currently may be Duke Carolina Progress
18	UST	40 Interstate Boulevard	N/A	Carolina Cat	Beacon Partners #8 LLC	Petroleum-contaminated soils/solvents	Low	Caterpillar Diesel Repair shop; former Carolina Tractor
19	Waste	190 Hominy Creek Road	NCD980558035	Hominy Creek Landfill	Buncombe County	Waste	Low to moderate	Transfer station; dump closed in 1973
20	UST	380 Brevard Road	0-031264	Aston Park Health Center	Aston Park Health Center	Petroleum-contaminated soils	Low	One UST closed in 1990
21	UST	75 Shelburne Road	0-024263	National Guard Armory	National Guard State of NC	Petroleum-contaminated soils	Low	Three USTs closed in 1993, 1995, and 1999
22	UST	225 Amboy Road	0-004395	Wilson's RV Repair	Wilson's Mobile Home repairs/ Flora J. Wilson	Petroleum-contaminated soils	Low	Two USTs closed in 1989
23	Paint/Body Shop	448 Haywood Road	N/A	Silvers Auto Service	Michael D. Silver	Solvents	Low	Auto Repair Paint & Body Shop
24	UST	441 Haywood Road	0-030207	Asheville Pre School	Asheville BOE	Petroleum-contaminated soils	Low	Former Aycock Elem School; one current 15,000 gallon heating oil UST
25	UST	495 Haywood Road	0-032429	Haywood Quick Stop	DEU Enterprises/ Samuel J. Couch	Petroleum-contaminated soils	Low	Current convenience store; five current USTs
26	UST	507 Haywood Road	0-004483	Speedy Income Tax	Warren and Dianne Davenport	Petroleum-contaminated soils	Low	Former Frito Lay of Asheville; one UST closed in 1989

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
27	UST	476 Haywood Road	N/A	Daggitts Pawn	David E. Stevens	Petroleum-contaminated soils	Low	May have been a store/gas station at one time; no UST Information
28	UST	74 Argyle Lane	N/A	MCC Outdoor LLC	MCC Outdoor LLC	Petroleum-contaminated soils	Low	Vacant property; building footprint still visible; no UST information
29	UST	640 Patton Avenue (111 Hazel Mill Road)	0-021574	FedEx Shipping Center	FedEx Corp/Cole FE Asheville NC LLC	Petroleum-contaminated soils	Low	Two USTs closed in 1997 and 2000; NFA issued for Incidents 17600 & 20496
30	UST	167 Craven Street	0-004506	Currently a vacant lot	Buncombe County BOE/City of Asheville	Petroleum-contaminated soils	Low	Former Buncombe Co BOE Maintenance facility; six USTs closed between 1990 and 2008; GWIs 7402,7404, and 7387 have been closed out
31	UST	300 Riverside Drive	0-021251	Former Westall-Chandley Lumber Company	Johnson-Chandley Lumber Company/T&T Enterprises	Petroleum-contaminated soils	Low	GW1 #16114; one UST removed in 1991 (A-0010A Site 1)
32	UST	360 West Haywood Street	0-003636	Asheville Transit Authority	City of Asheville	Petroleum-contaminated soils	Low	Two USTs closed in 1993 and one closed in 1994; GW1 #10964 and 28130
33	UST	252 Patton Avenue	0-004339	Hunter Volvo	Paul S. Meeker	Petroleum-contaminated soils	Low	Formerly Meeker Lincoln-Mercury; one UST closed in place in 1989, one UST removed in 1992; GW1 8986 closed out in 1992

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
34	UST	125 Hill Street	0-030212	Dickson Elementary	Asheville City BOE	Petroleum-contaminated soils	Low	One current 10,000 gallon heating oil UST
35	UST	635 Patton Avenue	0-007590	The Auto Connection	Service Distributing Co/York Real Estate Investment LMT PTN	Petroleum-contaminated soils	Low	Former Serco Gas Station; four USTs closed in 2000; GWI# 22680 (A-0010A Site 2)
36	UST	639 Patton Avenue	N/A	Mr. Transmission	Jerry and Betty Jo Dean	Petroleum-contaminated soils	Low	Currently has in ground lifts (I-4400/4700 Site 12)
37	UST	645 Patton Avenue	0-036181	Sam's Club # 6452	Sams East, Inc./ Sams Real Estate Business Trust	Petroleum-contaminated soils	Low	Active gas station; three current USTs (I-4400/4700 Site 11)
38	Junk Yard	444 Riverside Drive	N/A	Asheville Auto Auction	Asheville Auto Auction Inc.	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information (I-4400/4700 site # 15); see comments Site 45
39	Junk yard	448 Riverside Drive	N/A	Riverside Auto Parts	Scott Banks	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information; See comments Site 45
40	Junk yard	452 Riverside Drive	N/A	A-1 Towing and Used Cars	Thomas A. Hutchinson	Petroleum-contaminated soils	Low	Currently a junk yard; no UST information (I-4400/4700 Site 16); see comments Site 45
41	Farm Supplies	464 Riverside Drive	N/A	Southern States Farm Supply	Southern States Corporation	Pesticide	Low	Currently Southern States Farm Supplies; no UST information; see comments Site 45
42	Junk yard	665 Riverside Drive	N/A	Asheville Auto Parts	Terri S. Eury	Petroleum-contaminated soils	Low	Junk yard; no UST information; see comments Site 45

Site #	Type	Location	UST Facility ID #	Property Name	UST Owner/ Property Owner	Anticipated Impact	Anticipated Risk	Comments
43	UST	690 Riverside Drive	0-007332	Riverside Stump Dump	Farm Equipment Co. of Asheville	Petroleum-contaminated soils	Low	Former Farm Equipment Co. of Asheville; four USTs closed in 1990 (A-0010A Site 4); see comments Site 45
44	UST	796 Riverside Drive	N/A	The Byway	Agiqua LLC	Petroleum-contaminated soils	Low	Possible old gas station; no UST information; see comments Site 45
45	Landfill	Along the Bank of the French Broad River	N/A	N/A	N/A	Landfill materials of unknown composition	High	Area along the French Broad River is the site of historic uncontrolled landfilling; site-specific data are needed for any route selected
46	Textile Manufacturing	122 Riverside Drive (formerly 191 Riverside Drive)	N/A	Cotton Mill Studios	River Link, Inc.	Petroleum-contaminated soils, PCE in groundwater	Low to Moderate	Brownfields Program Historic Cotton Mill 07015-03-11
47	UST	405 Haywood Road	0-000796	Gas-Up	Julian Agbala	Petroleum-contaminated soils	Low	Active gas station with six current tanks
48	UST	402 Haywood Road	N/A	B&K Auto Repair	James Ertzberger	Petroleum-contaminated soils	Low	Possible former gas station; no UST information
49	UST	514 Haywood Road	N/A	Orellanas Auto & Tire Shop	Gerald Brooks	Petroleum-contaminated soils	Low	Possible former gas station; no UST information
50	UST	520 Haywood Road	N/A	C&J Motorcycle Service	J&J Motor Sports, LLC	Petroleum-contaminated soils	Low	Former gas station; no UST information
51	UST	547 Haywood Road	0-004386	Legal Aid of NC	R.N. Jarvis/ Thomas & Ann Franks	Petroleum-contaminated soils	Low	Former Jarvis Gulf gas station; six tanks closed in 1988



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Hazardous Material Sites
- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries

Date: May 2015



0 0.5 1
Miles

Figure 3-11

Hazardous Materials Sites

Landfills

A Preliminary Site Assessment report was prepared in 1993 for an abandoned landfill located between Riverside Drive (SR 1477) and the French Broad River (Environmental Investigations, Inc. 1993, NCDOT 1993a). The landfill starts just north of the Norfolk Southern Railroad bridge and extends north to Pearson Bridge Road (approximately 1.25 miles). The landfill operated as an open dump/landfill in the 1940s and 1950s and closed in the late 1950s to early 1960s.

The Preliminary Site Assessment included excavation of 15 test pits. No suspect materials were encountered in any of the test pits. The excavated material consisted of household waste, weathered rocks, automobile parts, tires, and incinerated aggregate materials. The landfill material extended beyond the vertical limits of the backhoe (i.e., greater than 13 feet) at the test pits on the southwest border of the landfill beside the river. However, no groundwater, residual material, or suspect materials such as sludge, leachate, and odorous material were encountered at any of the test pits. Based on observations of materials disposed of in the landfill, it is not likely that state or federal Superfund agencies would consider this site an imminent hazard or require evaluation (NCDOT 1993a).

3.3.7 MINERAL RESOURCES

The project is located within the Blue Ridge Physiological Province. This province is characterized by mountainous areas of steep ridges, intermountain basins, and valleys that intersect at all angles, giving the area its rugged character. The Blue Ridge contains the highest mountains in eastern North America. About 125 peaks exceed 5,000 feet in elevation.

The project study area is underlain by the Rome Formation, which is characterized by shale and siltstone interbedded with fine-grained sandstone and shaly dolomite. The geology of the Blue Ridge Province is made up of a complex mixture of granite, gneiss, volcanic, and sedimentary rock that has been compressed, broken, faulted, and twisted into folds. This region contains deposits of mica, feldspar, and quartz, which are useful in the ceramic, paint, and electronic industries. Rocks underlying Asheville are included in the Ashe Metamorphic Suite, Tallulah Falls Formation, and Alligator Back Formation, which were deposited 600 to 800 million years ago in the Precambrian era. At that time, sand, clay, and rocks were washed into a sea and mixed with material ejected from nearby volcanoes. Through plate tectonics, deeply buried rocks were altered by intense pressure and heat to form metamorphic gneiss and schist, which, in combination with granitic rocks, eventually formed the Appalachian Mountain chain (Ecoscience Corporation 2010).

Crushed stone, sand, and fieldstone are mined in the Asheville area. Crushed stone is necessary for all types of road construction and in any construction that requires the use of concrete. The Asheville area has an abundant supply of crushed stone. The nation's leading producer, Vulcan Materials, operates a quarry west of Asheville in Enka. Two quarries are operated by Grove Stone and Sand Company; one north of Asheville on the French Broad River near Alexander, and the other east of Asheville near the North Fork of the Swannanoa River between Black Mountain and Swannanoa. Other valuable and useful mineral commodities are produced in the region surrounding Asheville and Buncombe County; however, there are no active mines or quarries within or near the study area.

3.3.8 FLOODPLAINS/FLOODWAYS

The project study area is contained within the French Broad River Basin, which is located west of the Eastern Continental Divide. The entire basin covers approximately 2,830 square miles (Federal Emergency Management Agency (FEMA) 2010). Three separate sub-basins are denoted within the French Broad River Basin: the French Broad River, the Pigeon River, and the Nolichucky River, all of which flow northwest into the state of Tennessee. The project study area lies within the French Broad River sub-basin, approximately 54 miles downstream of the headwaters of the French Broad. Pertinent drainage areas of the French Broad River and its tributaries in the vicinity of Asheville are given in Table 3-11.

Table 3-11: Drainage Areas of Major Streams

Major Streams	Location	Drainage Area (square miles)
French Broad River	500 feet upstream of Amboy Road	801
	Pearson Road Bridge	945
Hominy Creek	Just downstream of Sand Hill Road	91.1

Source: FEMA 2010.

The French Broad River begins where four tributaries converge at Rosman, North Carolina, 35 miles southwest of Asheville. These four streams drop steeply from the watershed rim, where elevations range from 3,000 feet to as much as 6,000 feet. In the Asheville area, the elevation is approximately 2,000 feet.

A principal tributary to the French Broad River in the Asheville vicinity is Hominy Creek, which joins the river at I-40 milepost 151.5, near the southern corporate limit of Asheville. Hominy Creek flows beneath Buncombe County Bridges 206 and 208 at I-240 and NC 191 (Brevard Road). This creek also crosses under I-240 at Buncombe County Bridges 66 and 70 just north of the interchange with I-26 and I-40. The only other named tributary to the French Broad River crossed by the project is Smith Mill Creek, which joins the river on the western bank at river milepost 146.8.

The existing roadways within the project study area include 21 crossings of FEMA floodplains. Table 3-12 and Figures 3-12a and 3-12b include an inventory of the existing crossings and the existing hydraulic features at the floodplain locations.

3.3.9 PROTECTED LANDS

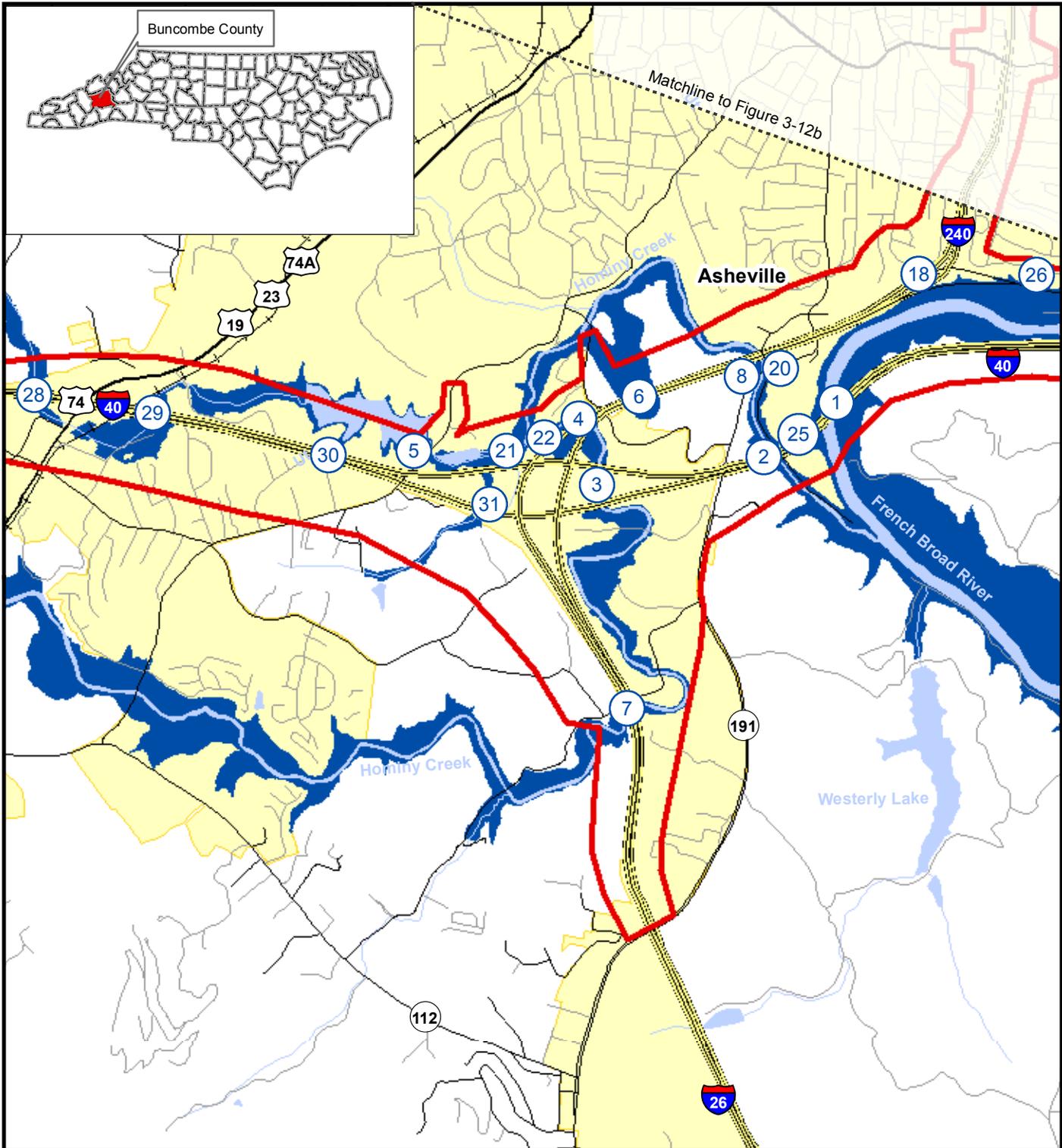
3.3.9.1 Wild and Scenic Rivers

Congress adopted the National Wild and Scenic Rivers Act in 1968 (Public Law 90-542; 16 USC 1271) to preserve certain rivers with outstanding natural, cultural, or recreational features in a free flowing condition. Under this Act, rivers are classified as Wild, Scenic, or Recreational. Wild rivers are defined in the Act as rivers free of impoundment, inaccessible except by trail, and having primitive shorelines and unpolluted waters. Scenic rivers are similar to Wild rivers, except that they are accessible in places by roads. Recreational rivers are readily accessible by road or railroad and may have some development along their shorelines. These rivers may have undergone impoundment or diversion in the past.

Table 3-12: Existing Hydraulic Crossings

Site	Stream	Location	Existing Structure
1	French Broad River	I-40, east of NC 191	Bridges 356 and 352
2	Hominy Creek	I-40, east of NC 191	Bridges 344 and 347
3	Hominy Creek	I-40, east of I-26	Bridges 334 and 339
4	Hominy Creek	I-240, north of I-40	Bridges 70 and 66
5	Ragsdale Creek	SR 3412	Dual 9 foot by 9 foot box culvert
6	Unnamed Tributary to Hominy Creek	I-240, north of I-40	Single 48 inch pipe
7	Hominy Creek	I-26, south of I-40	Bridges 238 and 235
8	Hominy Creek	I-240, west of NC 191	Bridges 206 and 208
9	Smith Mill Creek	Resort Drive and Sam's Club Access	Triple 36 inch pipes
13	French Broad River	I-240/Patton Avenue	Existing Captain Jeff Bowen Bridges 322 and 323
16	Reed Creek	US 19-23-70 and interchange	US 19-23-70 crosses over on Bridge 289 and ramps have box culvert crossings
17	Smith Mill Creek	Patton Avenue	Triple 8 foot by 11-foot box culverts
18	Unnamed Tributary 2A to French Broad River	I-240/Amboy Road	Single 48 inch pipe
19	Moore Branch	I-240, north of Amboy Road	Single 48 inch pipe
20	Unnamed Tributary 3C to Lower Hominy Creek	Shelburne Road	Single 60 inch pipe
21	Trent Branch	I-40, west of I-240 and I-240 ramp	Single 6 foot by 9 foot box culvert
24	Unnamed Tributary to French Broad River	US 19-23-70 and Riverside Drive	Single 66 inch pipe
25	Unnamed Tributary to French Broad River	US 19-23-70 and Riverside Drive	Dual 7 foot by 5 foot arched pipe, 8 foot by 8 foot box culvert, single 84 inch pipe, single 72 inch pipe, and single 66 inch pipe
28	Ragsdale Creek	I-40 West CD	Triple 7 foot by 9 foot box culverts
29	Ragsdale Creek	I-40 West CD	Triple 8 foot by 8 foot box culverts
30	Unnamed Tributary to Ragsdale Creek	I-40 West CD	One 48 inch pipe and one 30 inch pipe

Sources: *Hydraulic Technical Report for I-2513 the I-26 Asheville Connector* (TGS Engineers 2010); *Final Hydraulic Aspects Report Addendum to the I-2513 Hydraulic Technical Report* (URS 2015d).



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- 100 Year Floodplain
- Municipal Boundaries
- Crossing Site Number

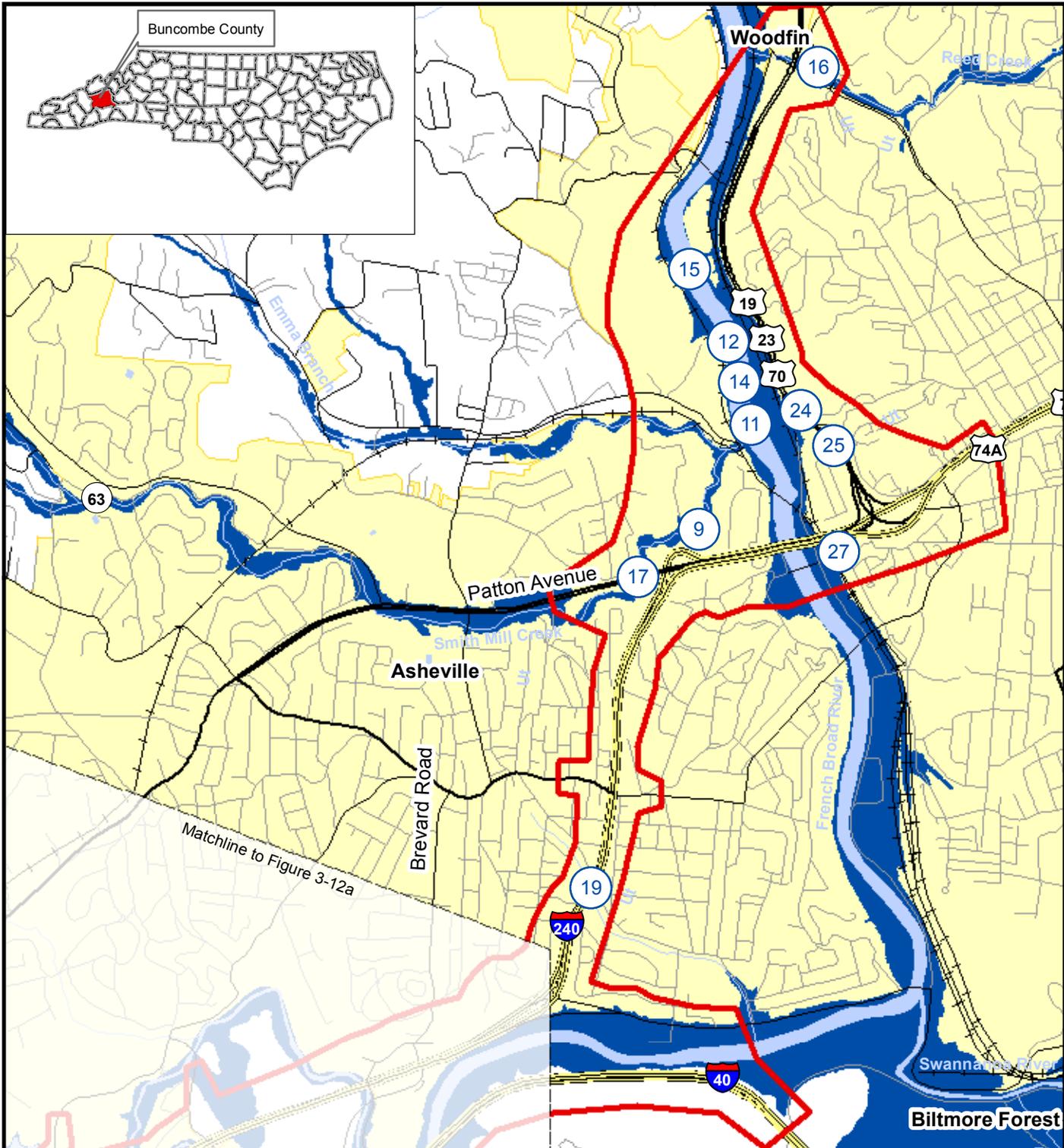
Date: May 2015



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Figure 3-12a

Floodplains and Floodways



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Route
- NC Route
- State Route
- Local Road
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- 100 Year Floodplain
- Municipal Boundaries
- Crossing Site Number

Date: May 2015



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Figure 3-12b

Floodplains and Floodways

No rivers or sections of river within or near the project study area are designated as Wild, Scenic, or Recreational under the National Wild and Scenic Rivers Act (NPS 2007).

In 1971, North Carolina also passed a Natural and Scenic Rivers Act. There are no rivers or sections of rivers within or near the project study area that are designated under the North Carolina Natural and Scenic Rivers Act (NCDENR 2007).

3.3.9.2 State/National Forests

There are no state or national forests in the project study area; however, the Pisgah National Forest is located approximately 2 miles southwest of the I-26/I-40 Interchange. The Pisgah National Forest consists of over one-half million acres of forest surrounding Mount Pisgah. It is owned and managed by the US Forest Service.

The Blue Ridge Parkway enters the Pisgah National Forest approximately 5 miles south of the project study area. The Parkway consists of 469 miles of scenic roadway that connects the Shenandoah National Park in Virginia with the Great Smoky Mountains National Park in North Carolina and Tennessee. The Parkway is a Designated All-American Road and is managed by the NPS. Several smaller parks and trails branch from the Parkway.

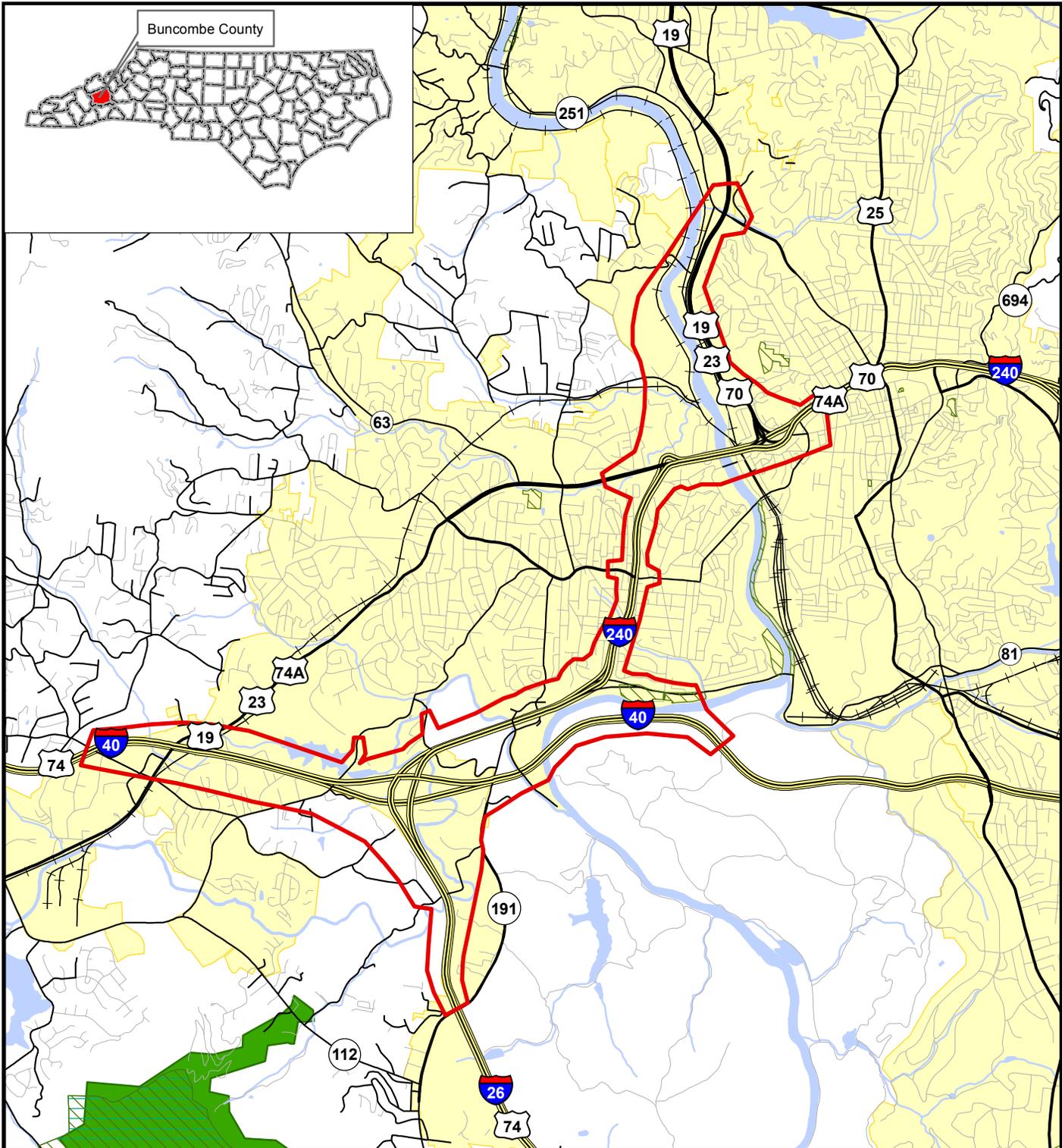
3.3.9.3 Gamelands and Preservation Areas

There are no gamelands in the project study area. A bear sanctuary, managed jointly by the US Forest Service and the North Carolina Wildlife Resources Commission (NCWRC), is located within the Pisgah National Forest. The sanctuary is located in the interior portion of the park, in Transylvania County (NCWRC 2007). Within the northern portion of the project study area, the French Broad River is designated as a Land Trust Priority Area (Figure 3-13).

3.4 CULTURAL RESOURCES

The project is subject to compliance with Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, in which it is stated:

The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking. (16 USC 470f)



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Route
- NC Route
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Project Study Area
- Water
- Municipal Boundaries
- Land Trust Priority Area
- Pisgah National Forest

Date: May 2015



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Miles

Figure 3-13

Protected Lands

Section 110(f) of the NHPA requires that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect National Historic Landmarks (NHLs). The law requires that agencies, "to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark." In those cases when an agency's undertaking directly and adversely affects an NHL, or when Federal permits, licenses, grants, and other programs and projects under its jurisdiction or carried out by a state or local government pursuant to a Federal delegation or approval so affect an NHL, the agency should consider all prudent and feasible alternatives to avoid an "adverse effect" on the NHL. [Sec. 110(a)(2)(B) and Sec. 110(f)].

The methods used to identify historic architectural and archaeological resources in the study area and the results of those investigations are described in this section.

3.4.1 HISTORIC ARCHITECTURAL RESOURCES

The information in this section is from the *Historic Architectural Resources Survey Update Report* prepared for this project (Acme Preservation Services, LLC 2015) based upon the earlier *Historic Architectural Resources Survey Report* (Alexander Mattson and Associates, Inc. 2006). The 2006 Historic Architectural Resources Survey was undertaken in accordance with the Department of Transportation Act of 1966, Section 106 of the NHPA of 1966, as amended (36 CFR 800), and the FHWA's *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (USDOT/FHWA 1987). The survey followed the 2003 *Section 106 Procedures and Report Guidelines* (NCDOT 2003b).

The survey was conducted with the following goals: (1) to determine the historic architectural area of potential effects (APE) for the project, which is defined as the geographic area or areas within which a project may cause changes to the character or use of historic properties, if any such properties exist; (2) to identify all resources of at least 50 years of age within the historic architectural APE; and (3) to evaluate these resources according to NRHP criteria (36 CFR 60).

All historic resources were identified and surveyed in the historic architectural APE. Fifteen of these resources were listed in the NRHP (NRHP-listed) or determined eligible for listing (NRHP-eligible). These historic resources are summarized in

Table 3-13 and shown on Figure 3-14. A letter from the State Historic Preservation Officer (SHPO) concurring with the status of the historic resources as listed in the table is provided in Appendix A. Detailed descriptions and photographs of the resources are provided in the Historic Architectural Resources Survey Update Report conducted for the project (Acme Preservation Services, LLC 2015).

The Montford Area Historic District is near the north end of the project, with three historic boundaries. The Montford Area Historic District is NHRP-listed, while the other two historic boundaries (Montford Hills and the Montford Hills/Hibriten Drive Boundary Expansion) are NHRP-eligible. In 2015, the Montford Area Historic District Boundary was re-evaluated and adjusted to add area to the east and remove area to the west because of recent development in the area.

Table 3-13: Historic Architectural Resources in the APE

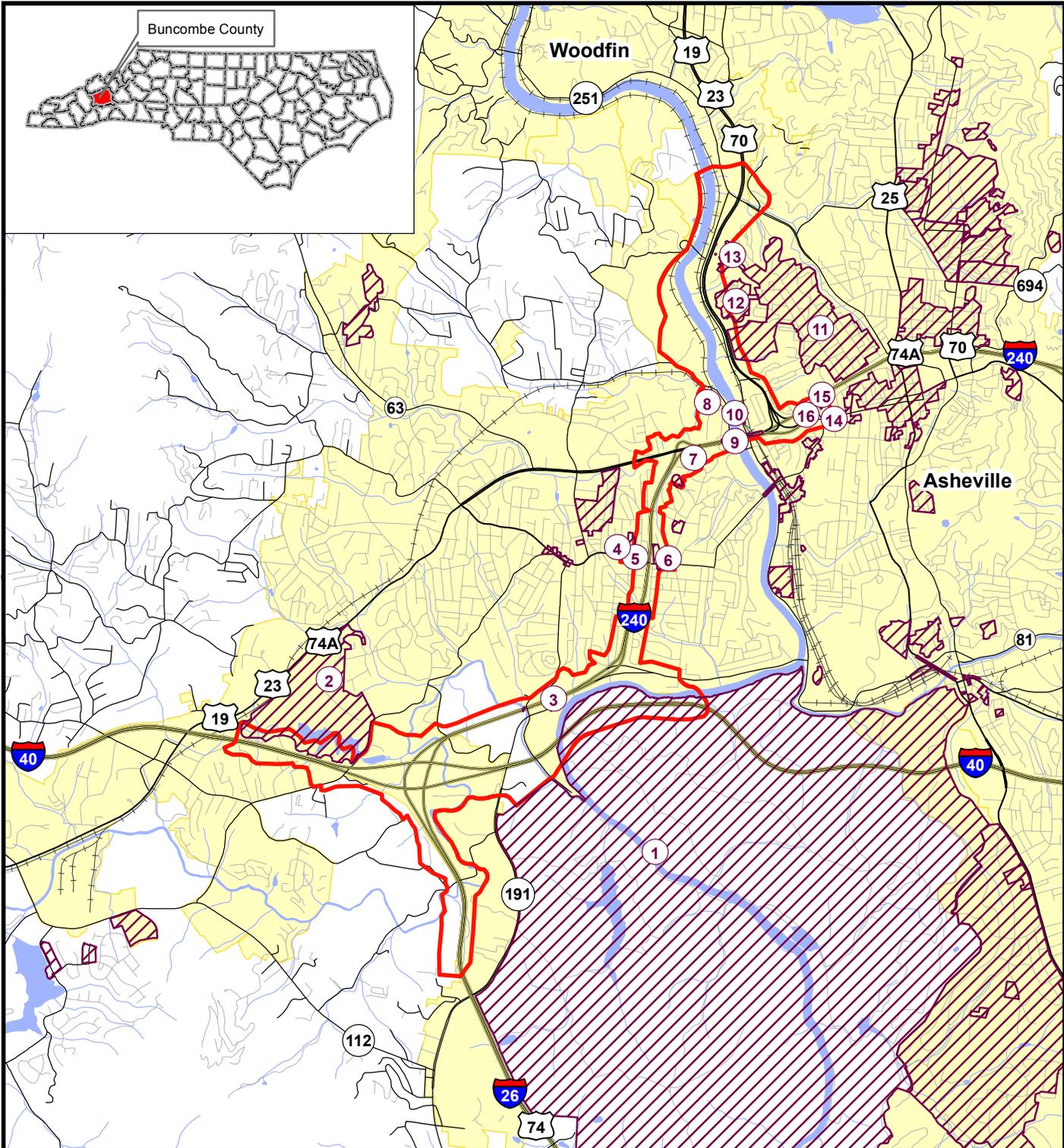
Name	Type	No. on Figure
Biltmore Estate	NHL	1
Asheville School	NRHP-listed	2
Buncombe County Bridge 216	NRHP-eligible	3
Calvary Baptist Church	NRHP-eligible	4
Baker Building	NRHP-eligible	5
West Asheville/Aycock School Historic District	NRHP-listed	6
William Worley House	NRHP-eligible	7
Freeman House	NRHP-eligible	8
Mrs. Minnie Alexander Cottage	NRHP-listed	9
Buncombe County Bridge 323 (formerly Great Smoky Mountains Park Bridge)	NRHP-eligible	10
Southern Railroad Bridge	NRHP-eligible	11
Montford Area Historic District	NRHP-listed	12
Montford Hills	NRHP-eligible	13
Montford Hills & Hibriten Drive Boundary Expansion	NRHP-eligible	14
Whiteford G. Smith House	NRHP-listed	15
Haywood Street United Methodist Church	NRHP-eligible	16

Source: *Historic Architectural Resources Survey Update Report* (Acme Preservation Services, LLC 2015).

The Mrs. Minnie Alexander Cottage and the Whiteford G. Smith House are located south of the Montford Area Historic District. Also located south of the Montford Area Historic District is the Great Smoky Mountains Park Bridge (1948 1950; altered 1989), the northern bridge of the two Captain Jeff Bowen Bridges. The bridge carries westbound I-240/US 19-23 and Patton Avenue over the French Broad River. Sited near the center of the historic architectural APE is the West Asheville/Aycock School Historic District, a business district that developed along the West Haywood Road streetcar line during the 1910s and 1920s. Nearby are the Baker Building and the William Worley House. At the south end of the project is Buncombe County Bridge 216. In the southeast section of the project, located alongside I-40, is the 6,900 acre Biltmore Estate, an NHL. Near the project's southwest corner, just north of I-40, is the southern tip of the 276 acre Asheville School. While the main part of the circa 1900 campus stands to the north, the wooded grounds extend southward to I-40.

Two additional resources were identified during the 2006 field survey as warranting intensive evaluation for NRHP eligibility. The Haywood Street United Methodist Church (1891, expanded 1917, 1967) is located just south of I-240 at Patton Avenue and the circa 1900 Freeman House, a well preserved picturesque dwelling, is sited just north of Westgate Shopping Center. Both of the resources have been determined to be NRHP-eligible (see letters from the SHPO dated July 2006 and September 2006 in Appendix A). The 2015 survey identified two new sites that are eligible for the NRHP. This includes Calvary Baptist Church, at the western edge of the study area along Haywood Road, and the Southern Railroad Bridge over the French Broad River, just north of the Great Smoky Mountains Park Bridge.

Additional details about historic sites that are also subject to Section 4(f) requirements are provided in Chapter 5.



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Buncombe County

STIP Project No. I-2513

Legend

- Historic Resource
- Historic Resources
- Area of Potential Effect
- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Municipal Boundary

Date: May 2015



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Figure 3-14

Historic Architectural
Resources

3.4.2 ARCHAEOLOGICAL RESOURCES

The methods and findings of the archaeological investigations conducted for the project are reported in detail in the *Revised Draft Report, Archaeological Survey and Evaluation for the I-26 Asheville Connector, Buncombe County, North Carolina* (Archaeological Survey and Evaluation Report) (TRC Garrow Associates, Inc. 2007). The results of the archaeological investigations described in the report are presented in this section.

Background research, field work, and analysis were used to identify archaeological resources within the archaeological APE for the project. The archaeological APE and survey areas for the project were identified by NCDOT.

The Archaeological Survey and Evaluation Report included examination of substantial areas of uplands along the French Broad River and Hominy Creek near Asheville, as well as investigations of a portion of the French Broad floodplain and terraces on the Biltmore Estate. Although large parts of the survey areas had been previously disturbed by urban growth and road construction, 3,976 shovel tests were excavated in relatively undisturbed areas. The survey identified 27 new archaeological sites (containing at least 20 prehistoric and 17 historic-period components) and 1 prehistoric isolated find, and revisited and mapped previously identified site 31BN623, a former hydroelectric facility. Thirty-eight 1 by 1 meter test units were excavated to assist in evaluation of six of the newly discovered sites. Besides the sites and isolated find, a number of late nineteenth to twentieth century historic artifacts were found in fill or disturbed contexts in Sections A and B but not assigned site or isolated find numbers.

Additional archaeological research will be conducted after the Least Environmentally Damaging Preferred Alternative (LEDPA) is selected.

3.4.2.1 NRHP-Eligible Resources

Of the 29 resources, 4 sites (31BN623, 32BN825, 31BN826, and 31BN828) were recommended eligible for the NRHP. Site 31BN623, which is believed to represent the remains of the early twentieth century Lower Hominy Creek Hydroelectric Plant, is recommended NRHP-eligible under Criterion A due to its association with the early hydroelectric and streetcar industries. Barring the development of highly specific questions concerning hydroelectric facilities that could not be answered through documentary research, 31BN623 does not appear to have archaeological research potential. In the event that this facility is to be affected by road construction, appropriate mitigation would consist of additional documentary research and the preparation of interpretive materials concerning the facility and its role in providing electricity to Asheville's early streetcar system.

Sites 31BN825 and 31BN826 consist of similar upland lithic scatters overlooking Ragsdale Creek (formerly Lake Ashnoca). Both appear to date primarily to the Late Archaic period (although no diagnostic artifacts were found at 31BN826). Additional work at these sites could provide important information regarding Archaic period activities in upland settings. At the regional scale, data from these sites could provide a valuable complement to available data from lowland riverine sites, such as the Ravensford site, and sites in cove settings, such as the Cold Canyon site in Swain County (Shumate and Shumate 2001, Webb et al. 2005). At a larger scale, data on the organization of settlements and activities could be profitably compared with data from contemporaneous sites in the sandhills and elsewhere, leading to an increased understanding of the nature of hunter-gatherer settlement organization in the southeast (McNutt 2006). For these reasons, 31BN825 and 31BN826 are recommended NRHP-eligible under

Criterion D. If these sites cannot be avoided, data recovery excavations are recommended to mitigate any effects caused by construction of the project.

Site 31BN828 contains an intact Middle to Late Woodland assemblage in association with intact cultural deposits, posts, and pit features and archaeobotanical remains. These characteristics suggest that this site can yield crucial data concerning middle to Late Woodland occupations in the area, including data on material cultural assemblages, settlement structure, architectural forms, subsistence practices, and relationships with surrounding areas. A minor Qualla component also appears to be present and, if confirmed, can provide useful data on the nature of Qualla occupations near the eastern edge of the Cherokee territory. Site 31BN828 is recommended eligible for the NRHP under Criterion D. If the site cannot be avoided, data recovery excavations are recommended to mitigate any effects to be caused by construction of the I-26 Connector. The data recovery work at this site should include a thorough exploration of the Woodland and possible Qualla components, as well as deep testing to search for any earlier Archaic period deposits that may be present.

3.4.2.2 Resources Requiring Additional Study

Additional investigations are needed at seven other sites (31BN814, 31BN823, 31BN867, 31BN868, 31BN870, 31BN871, and 31BN873) in order to provide conclusive eligibility recommendations should ground-disturbing activities be planned at those locations. Additional investigations would be completed once a preferred alternative is selected.

Two of these sites (31BN823 and 31BN870) are situated on the French Broad River floodplain in the southern part of the project area at locations that contain substantial historic alluvium. Deep testing would be needed at these locations to search for and assess likely buried cultural deposits. A third site, 31BN814, is situated on the French Broad in Section B, in an area that contains substantial historic fill. Additional exploratory work is needed at this location to determine whether intact deposits are present beneath the fill, or if the recovered artifacts were redeposited.

Four of these sites (31BN867, 31BN868, 31BN871, and 31BN873), all situated on the Biltmore Estate, appear to have the potential to contain prehistoric and/or nineteenth century historic period features. As this potential could not be adequately investigated with test unit excavation, limited topsoil stripping is recommended to search for features and allow a definitive characterization of the NRHP eligibility of these sites. Deep testing may also be required of 31BN868.

Additional geomorphic evaluation and/or deep testing is recommended at several other locations along the corridor where there is potential for deeply buried deposits, including floodplains and terraces along Hominy Creek, Smith Mill Creek, and the French Broad River. Many of these locations (such as along Hominy Creek at the south end of Section C, and along the French Broad River in Section B) are covered with pavement or extensive fill deposits. Although their topographic settings suggest that buried deposits could be present, it is uncertain whether any deposits that may have been present have survived modern disturbances. In other locations, such as along Smith Mill Creek, deposits could exist beneath relatively shallow blankets of historic alluvium.

3.4.2.3 NRHP-Ineligible Resources

The remaining 17 sites (31BN815 31BN822, 31BN824, 31BN827, 31BN829 31BN833, 31BN869, and 31BN872, along with isolated find 31BN876) are recommended ineligible for the NRHP. These sites do not appear to have the potential to provide substantive data concerning the prehistoric or historic occupations of these areas, and no additional work is recommended.

3.5 NATURAL ENVIRONMENT CHARACTERISTICS

Aspects of the existing natural environment in the project area presented in this section include soils and geology, biotic communities and wildlife, water resources, jurisdictional issues such as wetlands, and protected species. Unless otherwise cited, information regarding these topics was obtained from the *Natural Resources Technical Report* (NRTR) prepared for this project (Atkins Engineering 2015).

The study area is situated in the Blue Ridge physiographic province of North Carolina. Topography in the project vicinity is characterized by gradual to steep slopes with narrow floodplains along drainageways. Elevations range from a low of 1,980 feet above sea level near the confluence of Hominy Creek and the French Broad River to a high of 2,150 feet along I-240 in the central portion of the project study area. Land use within the project vicinity is characterized by residential and urban development, forest land (including a portion of Pisgah National Forest), and agriculture.

3.5.1 SOILS AND GEOLOGY

3.5.1.1 Soils

Natural Resources Conservation Service (NRCS) soil survey data for Buncombe County identify 21 soil types within the study area (Table 3-14). A soil series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. A map unit is a collection of areas defined and named the same in terms of their soil components or miscellaneous areas or both. Each map unit differs in some respect from all others in a survey area and is uniquely identified on a soil map (NRCS 1993).

3.5.1.2 Geology

The project study area is located within the Blue Ridge Geologic Belt, more specifically, the Rome Formation, which is characterized by shale and siltstone interbedded with fine-grained sandstone and shaly dolomite. Geology of the Blue Ridge Belt is made up of a complex mixture of granite, gneiss, volcanic, and sedimentary rock that has been compressed, broken, faulted, and twisted into folds. This region contains deposits of mica, feldspar, and quartz, which are useful in the ceramic, paint, and electronic industries. Rocks underlying Asheville are included in the Ashe Metamorphic Suite, Tallulah Falls Formation, and Alligator Back Formation, which were deposited 600 to 800 million years ago in the Precambrian era. At that time, sand, clay, and rocks were washed into a sea and mixed with material ejected from nearby volcanoes. Through plate tectonics, deeply buried rocks were altered by intense pressure and heat to form metamorphic gneiss and schist, which, in combination with granitic rocks, eventually formed the Appalachian Mountain chain. The project study area contains no known locations that include acidic rock that may affect water quality during construction.

Table 3-14: Soils in the Study Area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Biltmore loamy sand	BeA	Well Drained	Hydric ^a
Braddock clay loam	BkD2	Well Drained	Nonhydric
Braddock-Urban land complex	BnC	Well Drained	Nonhydric
Clifton clay loam	CkB2, CkC2	Well Drained	Nonhydric
Clifton sandy loam	CsC, CsD	Well Drained	Nonhydric
Clifton-Urban land complex	CuB, CuC, CuD	Well Drained	Nonhydric
Dillard loam	DrB	Moderately Well Drained	Hydric ^a
Evard-Cowee complex	EvD2, EvE2, EwC, EwD, EwE	Well Drained	Nonhydric
Evard-Cowee-Urban land complex	ExC, ExD, ExE	Well Drained	Nonhydric
Fannin-Lauada complex	FaD2, FaE2	Well Drained	Nonhydric
French loam	FrA	Moderately Well to Somewhat Poorly Drained	Hydric ^a
Hemphill loam	HpA	Very Poorly Drained	Hydric ^a
lotla loam	IoA	Somewhat Poorly Drained	Hydric ^a
Rosman fine sandy loam	RsA	Well Drained to Moderately Well Drained	Hydric ^a
Statler loam	StB	Well Drained	Hydric ^a
Tate loam	TaB, TaC, TaD	Well Drained	Nonhydric
Tate-Urban land complex	TmB, TmC, TmD	Well Drained	Nonhydric
Toxaway loam	TsA	Poorly and Very Poorly Drained	Hydric ^a
Udorthents, loamy	Ud	Well Drained	Nonhydric
Udorthents-Urban land complex	UfB, UfE	Well Drained	Nonhydric
Urban land	Ux	Well Drained	Nonhydric

^a Soils that are primarily nonhydric, but that may contain hydric inclusions.

3.5.2 BIOTIC RESOURCES

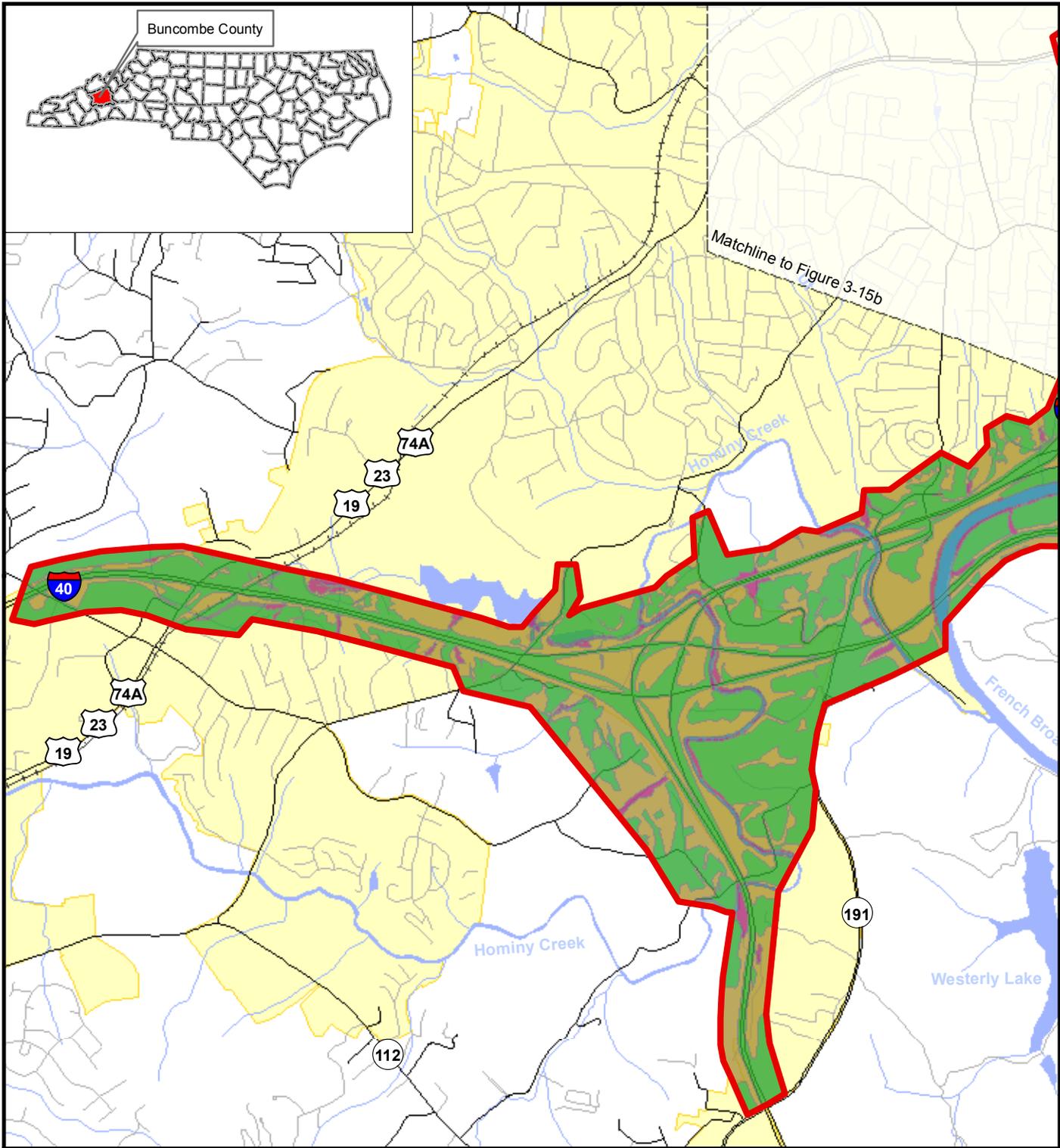
This section of the DEIS discusses the biotic resources, both terrestrial and aquatic, and their wildlife identified within the project study area. Information on biotic communities and wildlife was gathered from the NRTR.

3.5.2.1 Terrestrial Communities

Three terrestrial communities were identified in the study area: maintained/disturbed, mesic mixed forest, and alluvial hardwood forest. Figures 3-15a and 3-15b show the location and extent of these terrestrial communities in the study area. A brief description of each community type follows.

Maintained/Disturbed

This community incorporates several land cover types, including residential, commercial, industrial, and cleared/maintained pasture areas. The majority of the study corridor is designated maintained/disturbed land, which includes the central portion that bisects western



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Natural Resources Study Area
- Water
- Municipal Boundary
- Alluvial Hardwood Forest
- Maintained/Disturbed
- Mesic Mixed Forest
- Open Water

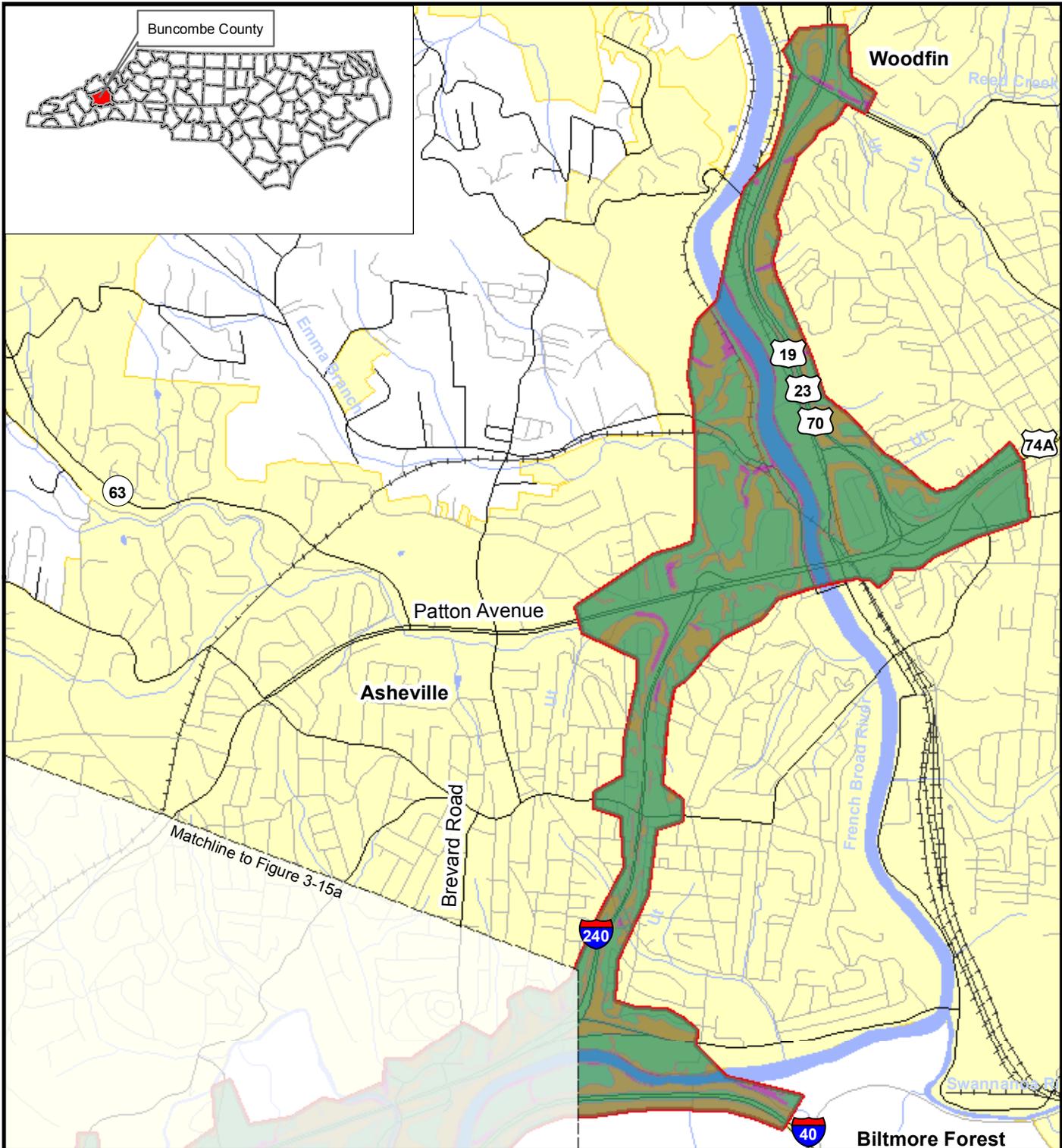
Date: May 2015



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Figure 3-15a

Biotic Resources



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Natural Resources Study Area
- Water
- Municipal Boundary
- Alluvial Hardwood Forest
- Maintained/Disturbed
- Mesic Mixed Forest
- Open Water

Date: May 2015



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Miles

Figure 3-15b

Biotic Resources

Asheville. Plant communities in residential areas often contain relict species, usually canopy trees that reflect their historic assemblages. Usually, introduced species predominate in maintained areas, and weedy species are opportunistic in recently disturbed areas. Canopy/subcanopy trees include red maple, princess tree, southern sugar maple, pignut hickory, white ash, sweetgum, yellow poplar, flowering dogwood, white pine, black cherry, and oaks including white oak, southern red oak, willow oak, northern red oak, and black oak. Shrubs include winged sumac, sourwood, wax myrtle, maple-leaf viburnum, and weedy species including mimosa, princess tree, blackberry, multiflora rose, tree-of-heaven, Japanese knotweed, autumn olive, bamboo, Japanese barberry, bush honeysuckle, pokeweed, and Chinese privet. Vines include Japanese honeysuckle, trumpet creeper, kudzu, oriental bittersweet, English ivy, catbrier, and muscadine. The herb layer includes ragweed, broomsedge, crabgrass, horseweed, beggar ticks, fireweed, dog fennel, St. Peter's cross, horse nettle, goldenrod, Japanese grass, Chinese silvergrass, and Queen Anne's lace.

Mesic Mixed Forest

This community, if undisturbed, would most resemble Schafale and Weakley's Mesic Mixed Hardwood Forest. Mature, stable forests in this region are usually characterized by a hardwood canopy. However, this community is characterized by a mixture of pine and hardwood species, with pines occasionally comprising greater than 30 percent of canopy stems. The community in the study area occurs on steeper sites and is primarily found as a buffer around roads, residential and other developed areas, and as secondary growth forest on previously timbered or otherwise disturbed land. Mesic mixed forest contains southern sugar maple, black walnut, yellow poplar, flowering dogwood, white oak, sourwood, Virginia pine, white pine, and shortleaf pine in the canopy/subcanopy. The shrub layer supports American holly, rosebay rhododendron, blackberry, Chinese privet, multiflora rose, autumn olive, bamboo, Japanese barberry, and bush honeysuckle. The herb layer includes Christmas fern, lespedeza, heartleaf, and Japanese grass. Vines include oriental bittersweet, Japanese honeysuckle, and English ivy.

Alluvial Hardwood Forest

This plant community supports many species in common with Piedmont/Low Mountain Alluvial Forest (Schafale and Weakley 1990), but the extent of disturbance by diverted storm water flow and by invasive species along roadside edges cause this community to deviate noticeably from the natural community described. Alluvial hardwood forest occurs throughout the study area along streams. This community has a significant component of wetland species, particularly in the herb layer. These areas are intermittently flooded, and may contain standing water for extended periods in the winter and spring. The forest canopy is characterized by sweetgum, yellow poplar, American sycamore, river birch, box elder, southern sugar maple, and red maple. Black willow, ironwood, and tag alder occur most often as understory trees. Chinese privet, silky dogwood, multiflora rose, Japanese knotweed, spicebush, blackberry, pokeweed, Japanese honeysuckle, oriental bittersweet, and catbrier are found in the shrub layer. Herbaceous species include Japanese grass, smartweed, jewelweed, false nettle, cardinal flower, soft rush, and seedbox. Vines include oriental bittersweet, Japanese honeysuckle, and catbrier. Alluvial hardwood forest contains the Bottomland Hardwood Forest, Floodplain Pool, Headwater Forest, and Riverine Swamp Forest North Carolina Wetland Assessment Method (NCWAM) community classifications.

3.5.2.2 Terrestrial Wildlife

Terrestrial communities in the study area are comprised of both natural and disturbed habitats that may support a diversity of wildlife species (those species actually observed are indicated with an asterisk). Mammals expected to occur within the open, disturbed portion of the project study area include eastern mole, red bat, eastern chipmunk*, meadow vole, red fox, striped skunk*, bobcat, Virginia opossum*, eastern cottontail*, woodchuck*, gray squirrel*, raccoon*, and white-tailed deer*. Bird species typical of developed areas in the Blue Ridge region of North Carolina include red-tailed hawk*, common grackle*, American robin*, eastern bluebird, northern cardinal*, red-winged blackbird*, red-bellied woodpecker, downy woodpecker, blue jay*, northern mockingbird*, European starling*, Carolina wren*, song sparrow*, common crow*, turkey vulture*, mourning dove*, eastern phoebe, yellow-rumped warbler*, white-eyed vireo, indigo bunting, gray catbird*, and white-throated sparrow. Primarily terrestrial reptiles and amphibians of open and disturbed areas include rat snake*, eastern fence lizard, corn snake, scarlet kingsnake, American toad, and slimy salamander.

Mammals expected to occur in wet or dry forested areas include Virginia opossum*, gray squirrel*, raccoon*, eastern mole, southeastern shrew, northern short-tailed shrew, red bat, eastern pipistrelle, eastern chipmunk*, southern flying squirrel, white-footed mouse, meadow vole, gray fox, white-tailed deer*, and bobcat. Bird species typical of upland forested areas of limited size and moderate disturbance in the Blue Ridge region include northern cardinal*, northern flicker, pileated woodpecker, blue jay*, brown thrasher, Carolina wren*, winter wren, Carolina chickadee*, tufted titmouse*, wood thrush, sharp-shinned hawk, eastern screech owl, ruby-crowned kinglet, goldencrowned kinglet, red-eyed vireo, eastern wood-pewee, black-throated blue warbler, ovenbird, yellow-rumped warbler, eastern towhee, and summer tanager. Primarily terrestrial reptiles and amphibians who would typically favor forested habitats in the study area include eastern box turtle*, American toad*, common musk turtle, five-lined skink, copperhead, timber rattlesnake, gray treefrog, upland chorus frog, wood frog, spotted salamander, and slimy salamander. Bird species that occur within wet forested parts of the study area include Acadian flycatcher, belted kingfisher*, great blue heron*, northern parula, and Louisiana waterthrush. Primarily terrestrial reptiles and amphibians that typically favor wet, forested habitats in the region include spring peeper*, pickerel frog, wood frog, and two-lined salamander.

3.5.2.3 Aquatic Communities

Streams of various sizes occur within the project study area and provide adequate habitat for a variety of aquatic wildlife (those species actually observed are indicated with an asterisk), including muskrat, beaver*, mink, raccoon, belted kingfisher*, great blue heron*, green heron, snapping turtle, yellow-belly slider, northern water snake, queen snake, bullfrog, green frog, blackbelly salamander, two-lined salamander and various benthic macroinvertebrates. The larger streams, such as the French Broad River, are expected to support a diverse fishery including largemouth bass, smallmouth bass, bluegill, redbreast sunfish, channel catfish, and rainbow trout. Smaller fish species expected to occur in study area streams include creek chub, Tennessee shiner, whitetail shiner, river chub, and bigeye chub. Ponds within the project study area provide habitat to support muskrat, beaver*, mink, raccoon, great blue heron*, green heron, snapping turtle, yellowbelly slider, northern water snake, queen snake, bullfrog, green frog, largemouth bass, smallmouth bass, bluegill and redbreast sunfish, and various benthic macroinvertebrates.

3.5.2.4 Invasive Species

During December 2014 field studies, 17 species from the NCDOT Invasive Exotic Plant List for North Carolina were found to occur in the study area. The species identified within maintained/disturbed communities were tree-of-heaven (severe threat), princess tree (severe threat), Chinese privet (severe threat), multiflora rose (severe threat), Japanese grass (severe threat), Chinese silvergrass (severe threat), Japanese knotweed (severe threat), oriental bittersweet (severe threat), kudzu (severe threat), mimosa (threat), autumn olive (threat), Japanese honeysuckle (threat), bamboo (threat), English ivy (threat), crown vetch (watch list), Japanese barberry (watch list), and bush honeysuckle (watch list). Mesic mixed forests contained garlic mustard (severe threat), Chinese privet, multiflora rose, Japanese grass, oriental bittersweet, autumn olive, Japanese honeysuckle, bamboo, English ivy, Japanese barberry, bush honeysuckle, and common periwinkle (watch list). Chinese privet and multiflora rose were particularly abundant in alluvial hardwood forests, along with Japanese grass, Japanese knotweed, oriental bittersweet, and Japanese honeysuckle. NCDOT will manage invasive plant species on the Department's right-of-way, as appropriate.

3.5.3 WATER RESOURCES

Water resources in the study area are part of the French Broad River Basin (US Geological Survey [USGS] Hydrologic Unit 06010105). Forty-five streams were identified in the study area (Table 3-15). The physical characteristics of these streams are provided in Table 3-16.

Table 3-15: Water Resources in the Study Area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification ^a
French Broad River	SA	6-(54.5)	B
UT1A to French Broad River	SD	6-(54.5)	B
UT2A to French Broad River	SF	6-(54.5)	B
UT1B to French Broad River	SN	6-(54.5)	B
UT1B to French Broad River (Pond 1B)	Pond 1B	6-(54.5)	B
UT1B to French Broad River (Pond 2B)	Pond 2B	6-(54.5)	B
UT1B to French Broad River (Pond 3B)	Pond 3B	6-(54.5)	B
UT2B to French Broad River	SI	6-(54.5)	B
UT3B to French Broad River	SO	6-(54.5)	B
UT4B to French Broad River	SK	6-(54.5)	B
UT5B to French Broad River	SL	6-(54.5)	B
UT6B to French Broad River	SM	6-(54.5)	B
UT7B to French Broad River	ST	6-(54.5)	B
UT1C to French Broad River	SAB	6-(54.5)	B
UT2 to UT1C to French Broad River	SAG	6-(54.5)	B
UT2C to French Broad River	SE	6-(54.5)	B
UT3C to French Broad River	SAM	6-(54.5)	B
UT4C to French Broad River	SAP	6-(54.5)	B
UT5C to French Broad River	SAQ	6-(54.5)	B
UT1 to UT5C to French Broad River	SAA	6-(54.5)	B
Lower Hominy Creek	SB	6-76	C

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification ^a
UT1C to Lower Hominy Creek	SAC	6-76	C
UT2C to Lower Hominy Creek	SAJ	6-76	C
UT3C to Lower Hominy Creek	SH	6-76	C
Upper Hominy Creek	SX	6-76	C
UT1C to Upper Hominy Creek	SAF	6-76	C
UT2C to Upper Hominy Creek	SAL	6-76	C
UT1 to UT2C to Upper Hominy Creek	SZ	6-76	C
UT2 to UT2C to Upper Hominy Creek	SAI	6-76	C
UT3C to Upper Hominy Creek	SAO	6-76	C
Moore Branch	SC	6-77	C
Ragsdale Creek	SV	6-76-11	C
UT1C to Ragsdale Creek	SAD	6-76-11	C
UT2C to Ragsdale Creek	SAK	6-76-11	C
UT3C to Ragsdale Creek	SAN	6-76-11	C
UT5C to Ragsdale Creek	SAR	6-76-11	C
UT6C to Ragsdale Creek	SAS	6-76-11	C
Reed Creek	SJ	6-80	C
Smith Mill Creek	SR	6-79	C
UT1B to Smith Mill Creek	SG	6-79	C
UT2B to Smith Mill Creek	SU	6-79	C
UT3B to Smith Mill Creek	SS	6-79	C
UT4B to Smith Mill Creek [Emma Branch]	SP	6-79-2	C
UT1 to UT4B to Smith Mill Creek [Emma Branch]	SQ	6-79-2	C
Trent Branch	SW	6-76-10	C
UT1C to Trent Branch	SAE	6-76-10	C
UT1 to UT1C to Trent Branch	SY	6-76-10	C
UT2 to UT1C to Trent Branch	SAH	6-76-10	C
Pond 1B	1B	--	--
Pond 2B	2B	--	--
Pond 3B	3B	--	--

^a Best Usage Classifications: B: Primary Recreation, Fresh Water; C: Aquatic Life, Secondary Recreation, Fresh Water

Table 3-16: Physical Characteristics of Water Resources in the Study Area

Map ID	Bank Height (feet)	Bankful Width (feet)	Water Depth (inches)	Channel Substrate	Velocity	Clarity
SA	4-12	200	200	Cobble, Sand	Moderate	Slightly turbid
SB	6	75	12-18	Cobble, Sand	Moderate	Clear
SC	3	12	6	Cobble, Gravel	Moderate	Clear
SD	2	10	4	Cobble, Gravel	Moderate	Clear
SE	1-6	4-8	6	Cobble, Gravel, Silt	Moderate	Clear
SF	2-3	3	6	Gravel, Sand	Moderate	Clear
SG	3	10	4	Gravel, Sand	Slow	Clear

Map ID	Bank Height (feet)	Bankful Width (feet)	Water Depth (inches)	Channel Substrate	Velocity	Clarity
SH	3	8	12	Bedrock, Cobble, Sand	Moderate	Clear
SI	2	2-4	2-6	Cobble, Sand, Silt	Moderate	Clear
SJ	4	15	36	Bedrock, Sand	Moderate	Clear
SK	1	5	4	Cobble, Sand	Moderate	Clear
SL	2	4	3	Cobble, Sand	Moderate	Clear
SM	3	5	5	Cobble, Sand	Moderate	Clear
SN	1	2	2	Gravel, Sand	Moderate	Clear
SO	2-3	3	2	Sand	Slow	Clear
SP	2-3	8	4	Cobble	Moderate	Clear
SQ	2-3	4	3	Silt, Sand	Slow	Clear
SR	6-8	20	18	Cobble, Sand	Moderate	Clear
SS	1-3	5	6	Gravel, Sand	Slow	Clear
ST	1	3	0-2	Sand, Silt	Slow	Clear
SU	1-2	3	3	Gravel, Sand	Slow	Clear
SV	3-4	8-13	1-12	Gravel, Sand	Moderate	Clear
SW	4	6	6-12	Sand, Silt	Moderate	Clear
SX	1-5	30-50	4-10	Cobble, Sand, Silt	Moderate	Clear
SY	1-2	3-4	0-3	Sand, Silt	Slow	Clear
SZ	2	5	0-3	Cobble, Gravel, Sand	Moderate	Clear
SAA	0.5	2	0-2	Sand, Silt	Slow	Slightly turbid
SAB	2-6	4-8	5-6	Gravel, Sand, Silt	Moderate	Clear
SAC	1-2	2	2-4	Gravel, Sand	Moderate	Clear
SAD	2	4	0-8	Gravel, Sand	Slow	Clear
SAE	2-3	2-4	2-6	Sand, Silt	Slow	Clear
SAF	3-4	5	4-6	Sand, Silt	Moderate	Clear
SAG	2	4	2-4	Sand, Silt	Slow	Clear
SAH	1	1.5	0-3	Sand, Silt	Slow	Clear
SAI	1	2-3	0-3	Cobble, Gravel, Sand	Slow	Clear
SAJ	1-3	3	2-4	Cobble, Gravel, Sand	Slow	Clear
SAK	2	3	1-4	Sand, Silt	Slow	Clear
SAL	1-3	2-8	2-4	Cobble, Gravel	Slow	Clear
SAM	3-5	6	12-18	Sand, Silt	Slow	Slightly turbid
SAN	2	4	1-8	Sand, Silt	Slow	Clear
SAO	0.5-1	4-8	0-3	Sand, Silt	Slow	Slightly turbid
SAP	5-8	8	12-14	Sand, Silt	Slow	Slightly turbid
SAQ	0.5	3	0-3	Cobble, Sand	Moderate	Clear
SAR	2	4	0-1	Clay, Silt	Slow	Slightly turbid
SAS	1-2	2.5	1-4	Sand, Silt	Slow	Clear

Hominy Creek has been divided into a Lower and an Upper section for the purposes of this report to point out differences in size and flow for the two sections. The French Broad River appears in all three sections, but is treated as one stream. UT1B to Smith Mill Creek mainly occurs in Section B.

Three ponds are located in Section B. These ponds are connected hydrologically to UT1B to French Broad River (SN). Ponds 1B (0.3 acre) and 3B (0.3 acre) appear to be impounded for water supplies, while Pond 2B (0.8 acre) is partially impounded by the railroad bed parallel to the French Broad River.

There are no NCWRC-designated trout waters, water supply watersheds (WS-I or WS-II), High Quality Waters (HQW), or Outstanding Resource Waters (ORW) within 1.0 mile downstream of the study area. On February 26, 2010, Marla Chambers of the NCWRC stated that, "We do not expect significant trout reproduction to occur in the project area for I-2513 in Asheville and are not requesting a work moratorium to protect trout."

The North Carolina Draft 2014 Section 303(d) list of impaired waters identifies no waters within the study area as impaired due to sedimentation or turbidity.

Benthic samples were taken at the French Broad River at SR 1348 and given a rating of "Good-Fair" in 2007. Benthic samples were taken at Hominy Creek at SR 3412 and given a rating of "Fair" in 2007.

3.5.4 JURISDICTIONAL ISSUES

3.5.4.1 Wetlands

Jurisdictional waters of the United States, including wetlands, are protected under Section 404 of the Clean Water Act (CWA). USACE and USEPA jointly define wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3, "Definitions of Waters of the United States," Revised 2004; 40 CFR 230.3, "Wetlands Definitions," Revised 2004). Section 404 jurisdictional wetlands are those areas satisfying the technical criteria contained in the USACE's *Wetlands Delineation Manual* (Environmental Laboratory 1987). The USACE's *Wetlands Delineation Manual* requires evidence of hydric soils, positive hydrological indicators, and a prevalence of hydrophytic vegetation for a determination that an area is a wetland. Section 404 jurisdictional waters other than wetlands include streams, rivers, and lakes.

Both federal and state programs regulate activities conducted in wetlands in order to minimize the continued reduction and degradation of these resources and strive to achieve a "no net loss" policy. The federal program is based on Section 404 of the CWA and the USACE's implementing regulations (33 CFR 320-330).

Information on jurisdictional areas was gathered from the NRTR prepared for this project and investigations have occurred several times between 1998 and 2014. The latest field effort was conducted between December 8 and December 19, 2014. The new delineated areas were submitted for approval to the USACE in February 2015. In addition to verifying the newest delineated areas, the submitted agency package will request that the entire project study area be re-verified.

The North Carolina Division of Water Resources (NCDWR) has prepared a wetlands assessment procedure entitled *A Field Guide to North Carolina Wetlands* (NCDENR 1996). The most recent version (fourth) of this procedure was released in 1995. NCDOT considers this method as a standard procedure for assessing wetlands proposed for roadway impacts; for this reason the procedure was used to rate each wetland identified within the project study area.

Jurisdictional Wetlands

Forty-five jurisdictional streams were identified in the study area (Table 3-17). The locations of these streams are shown on Figures 3-16a through 3-16e. USACE and NCDWR stream delineation forms are included in the *NRTR* (Atkins Engineering 2015). All jurisdictional streams in the study area have been designated as cool water streams for the purposes of stream mitigation.

Table 3-17: Jurisdictional Characteristics of Water Resources in the Study Area

Map ID	Length (feet)			Classification	Compensatory Mitigation Required	River Basin Buffer
	Section	A	B			
SA	5,720.1	1,879.5	6,717.7	Perennial	Undetermined	Not Subject
SB	1,157.9	--	1,506.2	Perennial	Undetermined	Not Subject
SC	519.1	--	--	Perennial	Undetermined	Not Subject
SD	664.2	--	--	Perennial	Undetermined	Not Subject
SE	574.7	--	892.1	Perennial	Undetermined	Not Subject
SF	639.7	--	--	Intermittent	Undetermined	Not Subject
SG	125.9	1,354.6	--	Perennial	Undetermined	Not Subject
SH	384.2	--	--	Perennial	Undetermined	Not Subject
SI	--	709.9	--	Intermittent	Undetermined	Not Subject
SJ	--	693.7	--	Perennial	Undetermined	Not Subject
SK	--	256.7	--	Perennial	Undetermined	Not Subject
SL	--	317.1	--	Intermittent	Undetermined	Not Subject
SM	--	227.5	--	Intermittent	Undetermined	Not Subject
SN	--	775.8	--	Intermittent	Undetermined	Not Subject
SO	--	427.7	--	Perennial	Undetermined	Not Subject
SP	--	893.8	--	Perennial	Undetermined	Not Subject
SQ	--	178.7	--	Intermittent	Undetermined	Not Subject
SR	--	3,270.1	--	Perennial	Undetermined	Not Subject
SS	--	243.8	--	Intermittent	Undetermined	Not Subject
ST	--	25.8	--	Intermittent	Undetermined	Not Subject
SU	--	300.1	--	Intermittent	Undetermined	Not Subject
SV	--	--	4,662.8	Perennial	Undetermined	Not Subject
SW	--	--	1,589.3	Perennial	Undetermined	Not Subject
SX	--	--	11,037.5	Perennial	Undetermined	Not Subject
SY	--	--	82.0	Intermittent	Undetermined	Not Subject
SZ	--	--	201.7	Perennial	Undetermined	Not Subject
SAA	--	--	142.2	Intermittent	Undetermined	Not Subject
SAB	--	--	445.0	Perennial	Undetermined	Not Subject
SAC	--	--	78.9	Intermittent	Undetermined	Not Subject

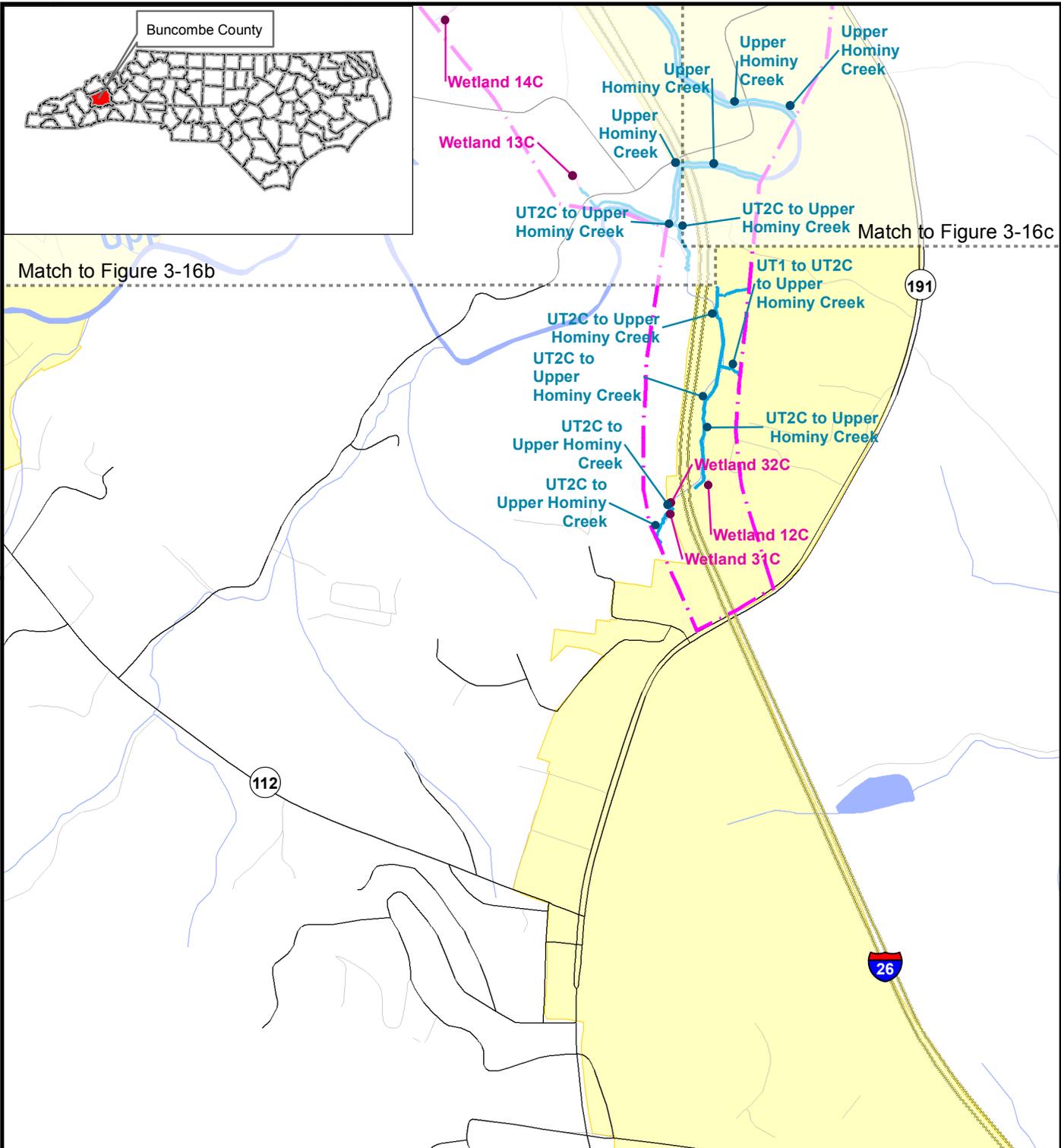
Map ID	Length (feet)			Classification	Compensatory Mitigation Required	River Basin Buffer
	Section	A	B			
SAD	--	--	837.5	Perennial	Undetermined	Not Subject
SAE	--	--	242.3	Perennial	Undetermined	Not Subject
SAF	--	--	334.2	Perennial	Undetermined	Not Subject
SAG	--	--	374.9	Intermittent	Undetermined	Not Subject
SAH	--	--	22.3	Intermittent	Undetermined	Not Subject
SAI	--	--	234.5	Perennial	Undetermined	Not Subject
SAJ	--	--	526.7	Perennial	Undetermined	Not Subject
SAK	--	--	245.8	Intermittent	Undetermined	Not Subject
SAL	--	--	1,974.5	Perennial	Undetermined	Not Subject
SAM	--	--	850.0	Perennial	Undetermined	Not Subject
SAN	--	--	501.3	Perennial	Undetermined	Not Subject
SAO	--	--	196.8	Perennial	Undetermined	Not Subject
SAP	--	--	620.8	Intermittent	Undetermined	Not Subject
SAQ	--	--	144.2	Perennial	Undetermined	Not Subject
SAR	--	--	113.9	Intermittent	Undetermined	Not Subject
SAS	--	--	107.3	Perennial	Undetermined	Not Subject

Ponds 1B (0.33 acre), 2B (0.33 acre), and 3B (0.21 acre) are located in Section B.

Thirty-six jurisdictional wetlands were identified within the study area. Wetland classification and quality rating data are presented in Table 3-18. All wetlands in the study area are within the French Broad River basin (US Geological Service (USGS) Hydrologic Unit 06010105). USACE wetland delineation forms and NCDWR wetland rating forms for each site are included in the NRTR. Descriptions of the natural communities at each wetland site are presented above. The alluvial hardwood forest community encompasses wetlands WA, WB, WD, WE, WG, WI, WJ, WN, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, WAA, WAB, WAC, WAE, WAF, and WAG. The mesic mixed forest community contains wetlands WC, WK, WL, WO, WP, WAI, and WAJ. The maintained/disturbed community contains WF, WG, WM, and WAJ. Wetland 1C occurs on alluvial hardwood forest and mesic mixed forest communities. Wetlands WH and WAD occur on alluvial hardwood forest and maintained/disturbed communities.

3.5.4.2 Protected Species

Federally listed endangered and threatened species are legally protected under the provisions of Section 7 of the Endangered Species Act (ESA) of 1973, as amended. Any action likely to adversely affect a species afforded federal protection is subject to review by the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS). Species classified as Federal Species of Concern (FSC) are not protected under the provisions of Section 7 of the ESA, but are defined as species under consideration for listing as threatened or endangered. North Carolina provides limited protection to "at risk" species under the North Carolina Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. The NCWRC and the North Carolina Department of Agriculture are responsible for enforcing and administering species protection. The USFWS and the North Carolina National Heritage Program (NCNHP) maintain lists and location data of known occurrences of endangered, threatened, and rare species for North Carolina.



North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Natural Resources Study Area
- Jurisdictional Wetlands
- Municipal Boundary

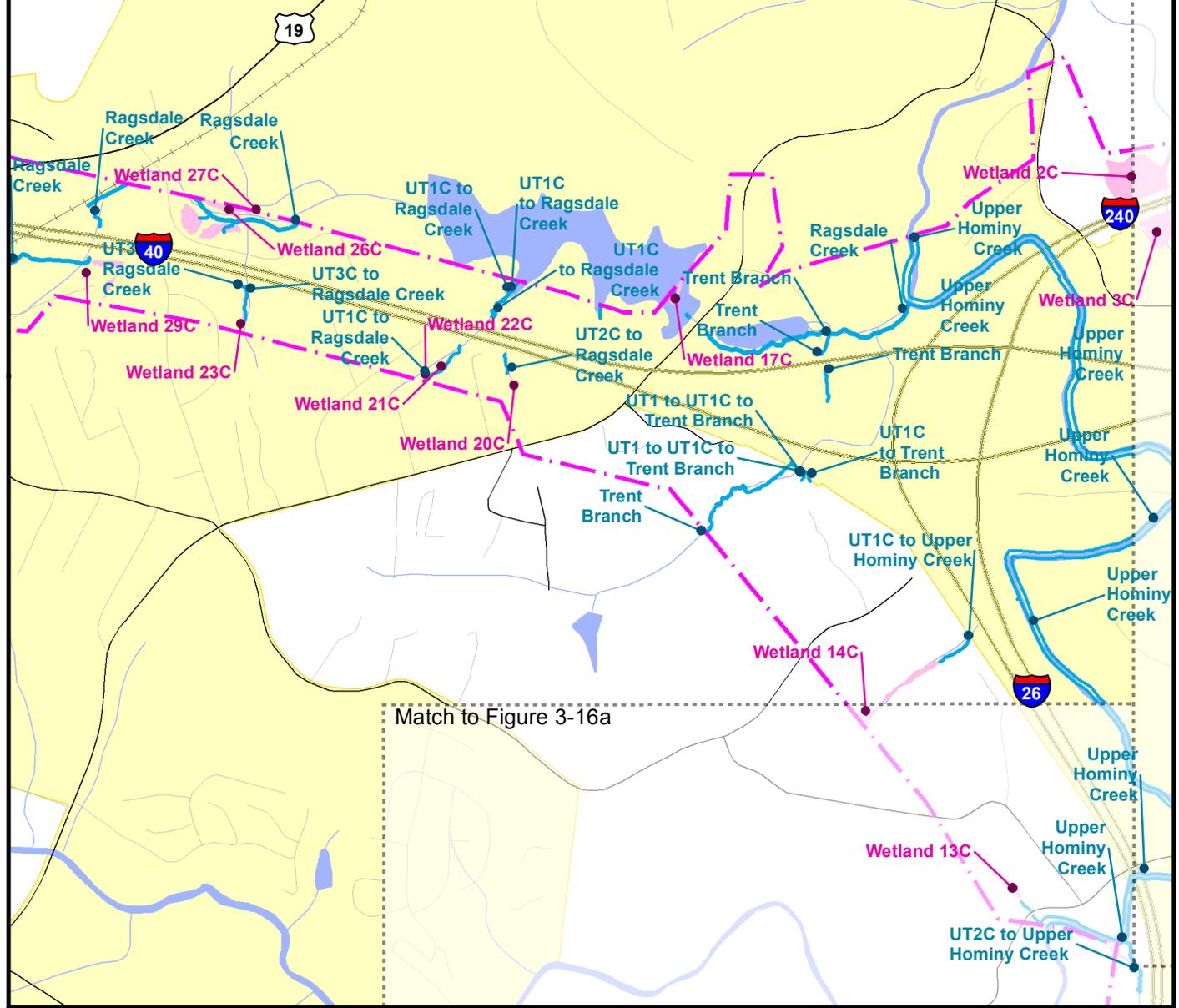
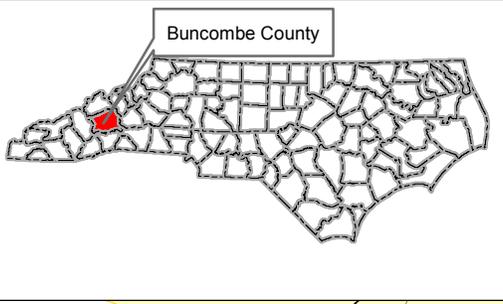
Date: May 2015



0 1,000 2,000
Feet

Figure 3-16a

**Jurisdictional
Streams and Wetlands**



Match to Figure 3-16c

Match to Figure 3-16a

North Carolina
Department of Transportation



I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Natural Resources Study Area
- Municipal Boundary
- Jurisdictional Wetlands

Date: May 2015

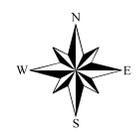


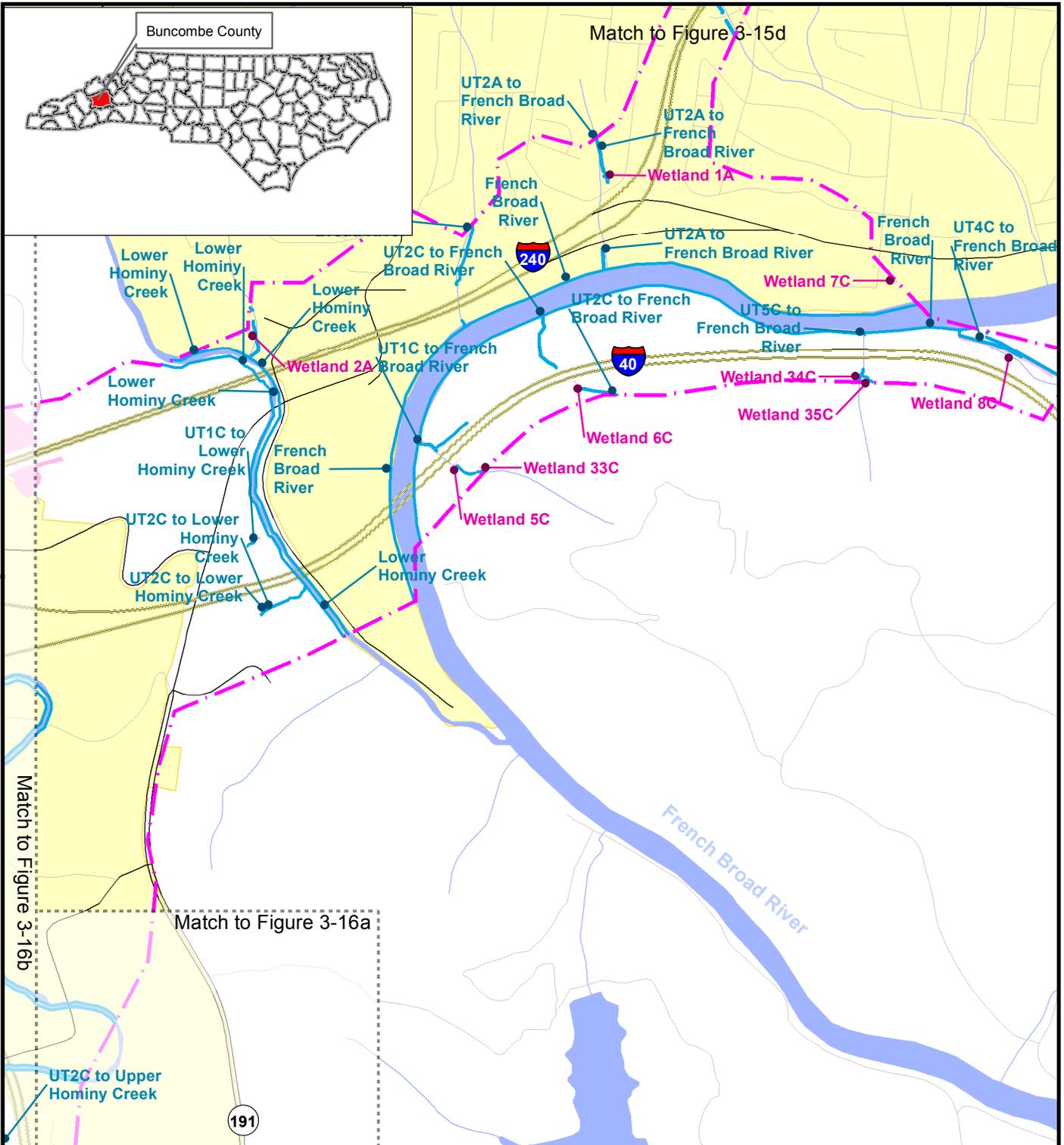
Figure 3-16b

**Jurisdictional
Streams and Wetlands**

Buncombe County



Match to Figure 3-15d



North Carolina
Department of Transportation



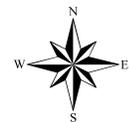
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Natural Resources Study Area
- Municipal Boundary
- Jurisdictional Wetlands

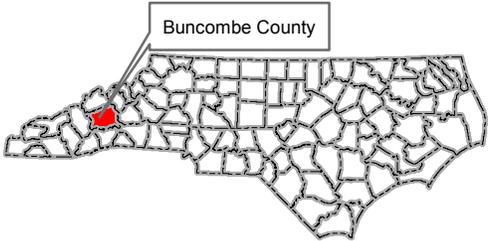
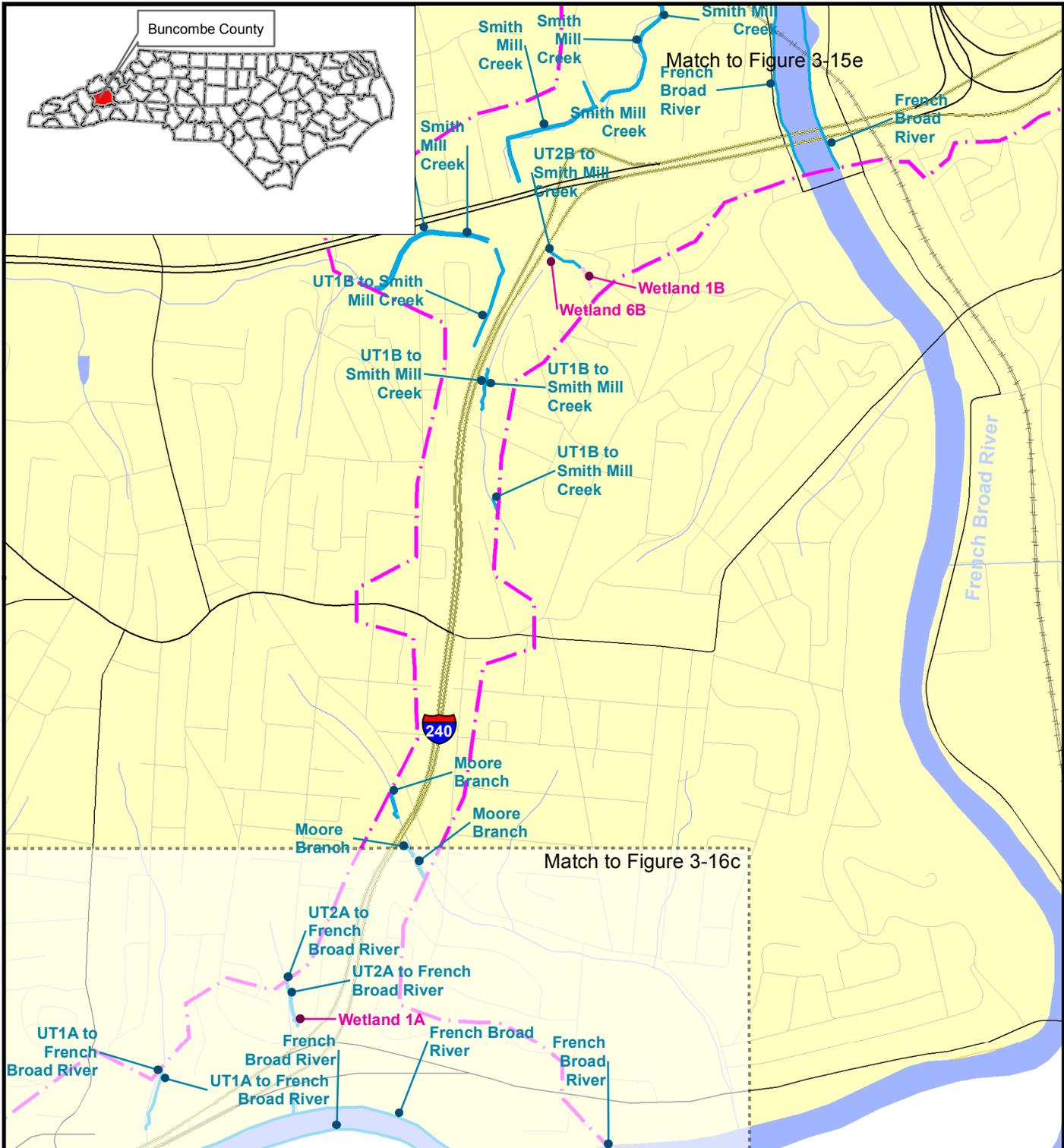
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Feet

Figure 3-16c

Jurisdictional
Streams and Wetlands



North Carolina
Department of Transportation



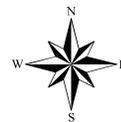
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

- Jurisdictional Streams
- Interstate
- US Highway
- NC Highway
- State Route
- Local Roads
- Railroad
- Streams (non-delineated)
- Water
- Natural Resources Study Area
- Municipal Boundary
- Jurisdictional Wetlands

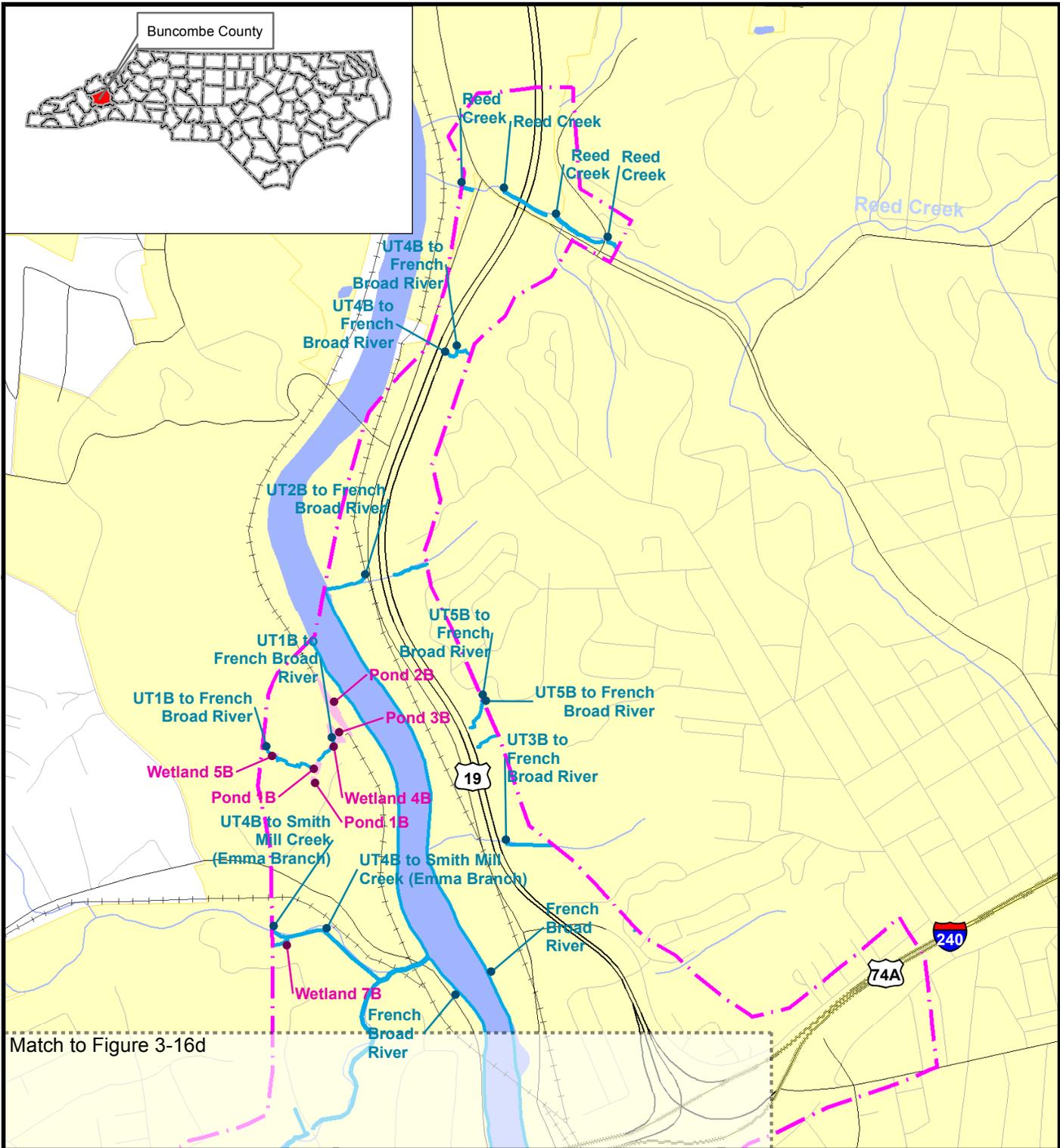
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0 1,000 2,000
Feet

Figure 3-16d

**Jurisdictional
Streams and Wetlands**



North Carolina
Department of Transportation



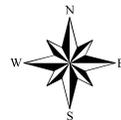
I-26 Asheville Connector
Buncombe County

STIP Project No. I-2513

Legend

-  Jurisdictional Streams
-  Interstate
-  US Highway
-  NC Highway
-  State Route
-  Local Roads
-  Railroad
-  Streams (non-delineated)
-  Water
-  Natural Resources Study Area
-  Municipal Boundary
-  Jurisdictional Wetlands

Date: May 2015



0 1,000 2,000
Feet

Figure 3-16e

**Jurisdictional
Streams and Wetlands**

Table 3-18: Jurisdictional Characteristics of Wetlands in the Study Area

Map ID	NCWAM Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (acres)
Section A				
WA	Bottomland Hardwood Forest	Riparian	40	0.01
WB	Floodplain Pool	Riparian	46	0.67
Section B				
WC	Bottomland Hardwood Forest	Riparian	43	0.11
WD	Bottomland Hardwood Forest	Riparian	33	0.11
WE	Floodplain Pool	Riparian	21	0.04
WF	Headwater Forest	Riparian	29	0.04
WG	Headwater Forest	Riparian	20	0.02
Section C				
WH	Headwater Forest	Riparian	71	3.63
WI	Headwater Forest	Riparian	71	1.51
WJ	Riverine Swamp Forest	Riparian	43	0.04
WK	Headwater Forest	Riparian	35	0.03
WL	Headwater Forest	Riparian	35	0.03
WM	Floodplain Pool	Riparian	21	0.02
WN	Bottomland Hardwood Forest	Riparian	37	0.62
WO	Headwater Forest	Riparian	50	0.04
WP	Headwater Forest	Riparian	Unknown	0.10
WQ	Headwater Forest	Riparian	Unknown	0.65
WR	Bottomland Hardwood Forest	Riparian	67	0.27
WS	Bottomland Hardwood Forest	Riparian	41	0.01
WT	Bottomland Hardwood Forest	Riparian	41	0.03
WU	Headwater Forest	Riparian	47	0.05
WV	Riverine Swamp Forest	Riparian	54	0.08
WW	Riverine Swamp Forest	Riparian	54	0.02
WX	Riverine Swamp Forest	Riparian	46	0.19
WY	Headwater Forest	Riparian	40	0.68
WZ	Bottomland Hardwood Forest	Riparian	40	0.61
WAA	Bottomland Hardwood Forest	Riparian	40	0.39
WAB	Bottomland Hardwood Forest	Riparian	40	0.03
WAC	Bottomland Hardwood Forest	Riparian	59	0.51
WAD	Bottomland Hardwood Forest	Riparian	59	0.04
WAE	Bottomland Hardwood Forest	Riparian	31	0.04
WAF	Headwater Forest	Riparian	39	0.01
WAG	Headwater Forest	Riparian	34	0.04
WAH	Headwater Forest	Riparian	48	0.02
WAI	Bottomland Hardwood Forest	Riparian	38	0.03
WAJ	Bottomland Hardwood Forest	Riparian	39	0.04
Total				10.8

Information on protected species was gathered from the NRTR. However, since the completion of the NRTR, the Northern long-eared bat (NLEB) has been listed as Threatened within Buncombe County and information contained within this document has been updated accordingly. According to the NRTR, a listing of federally protected species whose ranges extend into Buncombe County was obtained from the USFWS (dated January 14, 2014) (USFWS 2015). Files maintained by the NCNHP were reviewed for documented sightings of state or federally listed species and documented locations of significant natural areas. Field surveys for protected species focused on identification of potential habitat areas. Suitable habitat for these protected species was searched for during the 1998 field visits in Sections A and B, the 2003 field visits in Section C, and the 2005 field visits in the expanded areas of all sections. During 2005 and 2014, suitable habitat was resurveyed for occurrences of all appropriate species. The federally protected species listed for Buncombe County as of April 2, 2015, are depicted in Table 3-19. Species with habitat present in the project study area are briefly described below.

Table 3-19: Federally Protected Species Listed for Buncombe County

Scientific Name	Common Name	Federal Status ^a	Habitat Present
<i>Clemmys muhlenbergii</i>	Bog turtle	T(S/A)	No
<i>Glaucomys sabrinus coloratus</i>	Carolina northern flying squirrel	E	No
<i>Myotis grisescens</i>	Gray bat	E	Yes
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	T	Unknown
<i>Hybopsis monacha</i>	Spotfin chub ^b	T	Yes
<i>Alasmidonta raveneliana</i>	Appalachian elktoe ^b	E	Yes
<i>Microhexura montivaga</i>	Spruce-fir moss spider	E	No
<i>Epioblasma florentina walker</i>	Tan riffleshell ^{a, b}	E	Yes
<i>Solidago spithamaea</i>	Blue Ridge goldenrod ^b	E	No
<i>Sagittaria fasciculata</i>	Bunched arrowhead ^b	E	Yes
<i>Sarracenia jonesii</i>	Mountain sweet pitcher plant ^b	E	No
<i>Geum radiatum</i>	Spreading avens	E	No
<i>Spiraea virginiana</i>	Virginia spiraea*	T	Yes
<i>Gymnoderma lineare</i>	Rock gnome lichen	E	No

^a E = Endangered, T = Threatened, T(S/A) = Threatened due to similarity of appearance
MA-NLAA – May Affect-Not Likely to Adversely Affect

^b Historic record (the species was last observed in the county more than 50 years ago).

^c Obscure record (the date and/or location of observation is uncertain).

Bog turtle

USFWS optimal survey window: April 1 to October 1 (visual surveys); April 1 to June 15 (optimal for breeding/nesting); May 1 to June 30 (trapping surveys)

Habitat Description: Bog turtle habitat consists of open, groundwater supplied (springfed), graminoid dominated wetlands along riparian corridors or on seepage slopes. These habitats are designated as mountain bogs by the NCNHP, but they are technically poor, moderate, or rich fens that may be associated with wet pastures and old drainage ditches that have saturated muddy substrates with open canopies. Plants found in bog turtle habitat include sedges, rushes, marsh ferns, herbs, shrubs (tag alder, hardhack, blueberry, etc.), and wetland tree species (red maple and silky willow). These habitats often support sphagnum moss and may contain

carnivorous plants (sundews and pitcherplants) and rare orchids. Potential habitats may be found in western Piedmont and Mountain counties from 700 to 4500 feet elevation in North Carolina. Soil types (poorly drained silt loams) from which bog turtle habitats have been found include Arkaqua, Chewacla, Dellwood, Codorus complex, Hatboro, Nikwasi, Potomac – Iotla complex, Reddies, Rosman, Tate – Cullowhee complex, Toxaway, Tuckasegee – Cullasaja complex, Tusquitee, Watauga, and Wehadkee.

Carolina northern flying squirrel

USFWS optimal survey window: May to October; coldest days in coldest winter months (nest box surveys)

Habitat Description: There are several isolated populations of the Carolina northern flying squirrel in the mountains of North Carolina. This nocturnal squirrel prefers the ecotone between coniferous (red spruce, Fraser fir, or hemlock) and mature northern hardwood forests (beech, yellow birch, maple, hemlock, red oak, and buckeye), typically at elevations above 4,500 feet. In some instances, the squirrels may be found on narrow, north-facing valleys above 4,000 feet. Both forest types are used to search for food and the hardwood forest is used for nesting sites. Mature forests with a thick evergreen understory and numerous snags are most preferable. In winter, squirrels inhabit tree cavities in older hardwoods, particularly yellow birch.

Gray bat

USFWS optimal survey window: May 15 through August 15; January 15 to February 15 (winter)

Habitat Description: Gray bats are known mainly from the cave regions of the southeast and midwest. They live in colonies in caves, utilizing different caves for summer roosting and winter hibernating. Summer caves are usually within 0.5 mile of a river or reservoir, which provides foraging habitat. During the summer, females give birth and rear the young in maternity caves, while males and yearlings roost in separate bachelor caves. Caves preferred for hibernation are typically deep, vertical caves with a temperature between 6 and 11 degrees Celsius. Gray bats are highly selective in choosing suitable caves, and nine known caves are thought to provide hibernation space for 95 percent of the population. Migration from summer to winter caves begins in September and is mainly complete by the beginning of November.

Northern Long-eared Bat

USFWS optimal survey window: June 1 through August 15

Habitat Description: In North Carolina, the Northern Long-eared bat (NLEB) occurs in the mountains, with scattered records in the Piedmont and coastal plain. In western North Carolina, NLEB spend winter hibernating in caves and mines. Since this species is not known to be a long-distance migrant, and caves and subterranean mines are extremely rare in eastern North Carolina, it is uncertain whether or where NLEB hibernate in eastern North Carolina. During the summer, NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees (typically greater than or equal to 3 inches diameter at breast height). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat also been found, rarely, roosting in structures like barns and sheds, under eaves of buildings, behind window shutters, in bridges, and in bat houses. Foraging occurs on forested hillsides and ridges, and occasionally over forest clearings, over water, and along tree-lined corridors. Mature forests may be an important habitat type for foraging.

Spotfin chub

USFWS optimal survey window: September to November (tributaries); year-round (large rivers)

Habitat Description: The spotfin chub occurs in the Little Tennessee River drainage system. This minnow typically inhabits moderate to large streams, 49 to 230 feet in width. However, they have been documented utilizing smaller tributaries in the fall. These streams should have a good current, clear water, cool to warm temperatures, and pools alternating with riffles. Specimens of spotfin chub have been taken from a variety of substrates but rarely from significantly silted substrates. This species has been observed spawning under loose rocks over bedrock.

Appalachian elktoe

USFWS optimal survey window: year-round

Habitat Description: The Appalachian elktoe is known from the French Broad River watershed in North Carolina. The Appalachian elktoe has been observed in moderate- to fast-flowing water, in gravelly substrates often mixed with cobble and boulders, in cracks of bedrock, and in relatively siltfree, coarse, sandy substrates. Apparently, stability of the substrate is critical to this species, as it is seldom found in stream reaches with accumulations of silt or shifting sand, gravel, or cobble.

Spruce-fir moss spider

USFWS optimal survey window: May to August

Habitat Description: This species is known only from spruce-fir forests in the Appalachian Mountains of North Carolina and Tennessee. The spruce-fir moss spider occurs in well-drained moss and liverwort mats growing on rocks or boulders. These mats are found in well-shaded areas in mature, high elevation (greater than 5,000 feet mean sea level [MSL]) Fraser fir and red spruce forests. The spruce-fir moss spider is very sensitive to desiccation and requires environments of high and constant humidity. The need for humidity relates to the moss mats, which cannot become too parched or the mats become dry and loose. Likewise, the moss mats cannot be too wet because large drops of water can also pose a threat to the spider. The spider constructs its tube-shaped webs in the interface between the moss mat and the rock surface. Some webs have been found to extend into the interior of the moss mat.

Tan riffleshell

USFWS optimal survey window: year-round

Habitat Description: Historic occurrences of the Tan riffleshell are known from the French Broad and Hiwassee Rivers in North Carolina. Currently, the only known viable population of this species is located in Tazwell County, Virginia. Individuals are typically found in headwaters, riffles, and shoals in sand and gravel substrates.

Blue Ridge goldenrod

USFWS optimal survey window: July to September

Habitat Description: Blue Ridge goldenrod, endemic to the Appalachian Mountains of North Carolina and Tennessee, occurs in the High Elevation Rocky Summit natural community generally at or above elevations of 4,600 feet above MSL along cliffs, ledges, balds, and dry rock crevices of granite outcrops of the higher mountain peaks. This early pioneer herb usually grows in full sun on generally acidic soils of shallow humus or clay loams that are intermittently saturated. The encroachment of woody vegetation such as ericaceous shrubs can eliminate the goldenrod through competition and shading. Roan Mountain bluet, Heller's blazing star, and spreading avens are a few of its common associate species.

Bunched arrowhead

USFWS optimal survey window: mid-May to July

Habitat Description: Bunched arrowhead, endemic to the southern Appalachian Mountains of North Carolina and upper Piedmont of South Carolina, is rooted in shallow water seepage areas of bogs, wooded swamps, and deciduous woods. This early-successional perennial herb occurs in Swamp Forest-Bog Complex (Typic Subtype) and Southern Appalachian Bog (Southern Subtype) natural communities. A known population also occurs in a maintained power line right-of-way along the headwaters of a river. The plant requires a slight but continuous and steady flow of cool, clean water that saturates or floods but does not stagnate. The species typically occurs in sandy loam soils found underneath a 10-24 inch deep layer of muck, sand, and silt. Undisturbed occurrences are usually located just below the origin of the seep on gently sloping terrain at the bluff-floodplain ecotone. While shaded areas contain the most vigorous plants, it will also grow in either full sun or partial shade beneath red maple, black gum, and alder at the base of steep slopes.

Mountain sweet pitcher plant

USFWS optimal survey window: April to October

Habitat Description: Mountain sweet pitcher plant, endemic to the Blue Ridge Mountains of North and South Carolina, is found along stream banks and in shrub/herb-dominated, seepage-fed mountain bogs (Southern Appalachian Bog-Southern Subtype). Both stream bank and bog habitats are usually situated along intermittently exposed to intermittently flooded level depressions associated with valley floodplains. These habitats, typically on soils of the Toxaway or Hatboro series, contain deep, poorly drained, saturated soils of loam, sand, and silt with a high organic matter content and medium to high acidity. A few occurrences of the pitcher plant also grow in cataract bogs, either in thin strips along the edges of waterfalls or on soil islands over granite rock faces, where sphagnum and other bog plant species line the sides. This early successional species relies on natural disturbance (e.g., drought, water fluctuation, periodic fire, ice damage) to maintain its habitat by preventing the establishment of later successional woody seedlings.

Spreading avens

USFWS optimal survey window: June to September

Habitat Description: Spreading avens occurs in areas exposed to full sun on high-elevation cliffs, outcrops, and bases of steep talus slopes. This perennial herb also occurs in thin, gravelly soils of grassy balds near summit outcrops. The species prefers a northwest aspect, but can be found on west-southwest through north-northeast aspects. Forests surrounding known

occurrences are generally dominated by either red spruce-Fraser fir, northern hardwoods with scattered spruce, or high elevation red oaks. Spreading avens typically occurs in shallow, acidic soil (such as the Burton series) in cracks and crevices of igneous, metamorphic, or metasedimentary rocks. Soils may be well drained but almost continuously wet, with soils at some known populations subject to drying out in summer due to exposure to sun and shallow depths. Known populations occur at elevations ranging from 4,296 to 6,268 feet above MSL. Blue Ridge goldenrod, Heller's blazing star, and Roan Mountain bluet are a few of its common associate species.

Virginia spiraea

USFWS optimal survey window: May to early July

Habitat Description: Virginia spiraea occurs in flood-scoured, high-gradient sections of rocky river banks of second and third order streams. This perennial shrub also occurs on meander scrolls and point bars, natural levees, and other braided features of lower stream reaches, gorges, and canyons. The plant grows in sunny areas on moist, acidic soils, primarily over sandstone, and tends to be found in often-disturbed early successional areas. The shrub often grows in thickets, although overtopping by arboreal species or fast-growing herbaceous vegetation eventually eliminates it. Scoured, riverine habitat sites are found where deposition occurs after high water flows, such as on floodplains and overwash islands, rather than along areas of maximum erosion. Many populations are either established among riparian debris piles where eroded vegetative modules or portions of a plant deposited during flood events, or can occur between boulders and in fine alluvial sand and other alluvial deposits.

Rock gnome lichen

USFWS optimal survey window: year-round

Habitat Description: Rock gnome lichen occurs in high elevation coniferous forests (particularly those dominated by red spruce and Fraser fir) usually on rocky outcrop or cliff habitats. This squamulose lichen only grows in areas with a great deal of humidity, such as high elevations above 5,000 feet MSL where there is often fog, or on boulders and large outcrops in deep river gorges at lower elevations. Habitat is primarily limited to vertical rock faces where seepage water from forest soils above flows only at very wet times. The species requires a moderate amount of sunlight, but cannot tolerate high-intensity solar radiation. The lichen does well on moist, generally open sites with northern exposures, but requires at least partial canopy coverage on southern or western aspects because of its intolerance to high solar radiation. The rock mosses *Andreaea* and *Grimmia* are common associate species in the vertical intermittent seeps.

Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large, dominant trees are utilized for nesting sites, typically within 1.0 mile of open water. Within and near the study area, the French Broad River constitutes foraging habitat for the bald eagle. Therefore, a detailed survey of the project study area and the area within 660 feet of the project limits was conducted from December 8 to December 18, 2014. No eagles or nests were found. In most cases, there were few large, emergent trees available near the surveyed water bodies that might provide nesting habitat if not for the urban setting. A review of the NCNHP database revealed no known occurrences of this species within 1.0 mile of the

project study area. Due to the survey results, lack of known occurrences, and lack of suitable habitat, it has been determined that this project would not affect this species.

Endangered Species Act Candidate Species

As of January 14, 2014, the USFWS lists no Candidate species for Buncombe County.

Essential Fish Habitat

The NMFS has identified no Essential Fish Habitat within Buncombe County.